

# Manufacturers' Record

A Weekly Southern Industrial and Hardware Newspaper.

VOL. 9. No. 8. WEEKLY.

BALTIMORE, APRIL 3, 1886.

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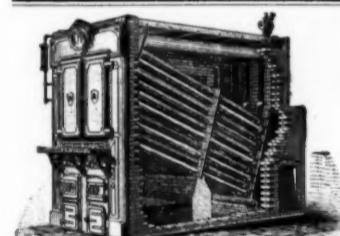
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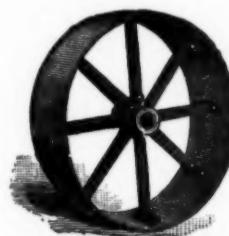
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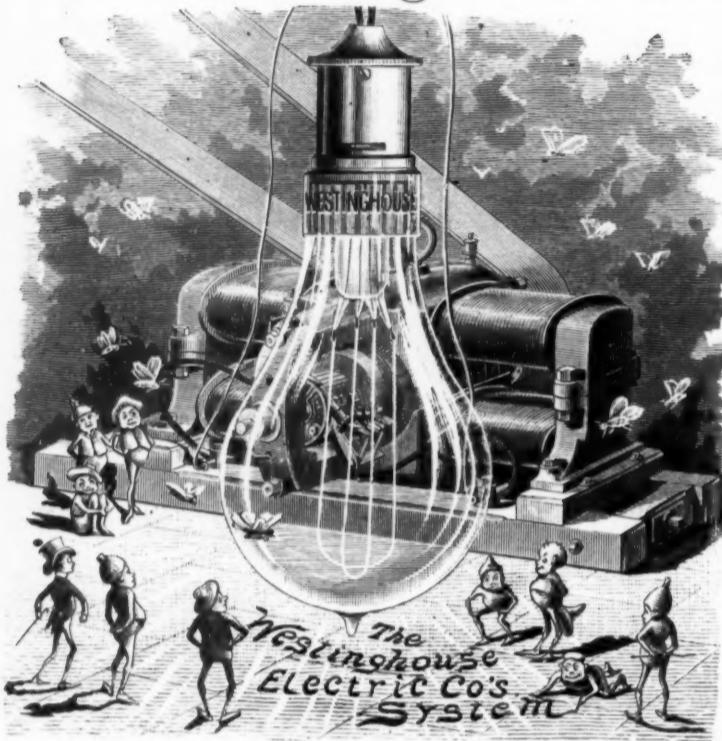
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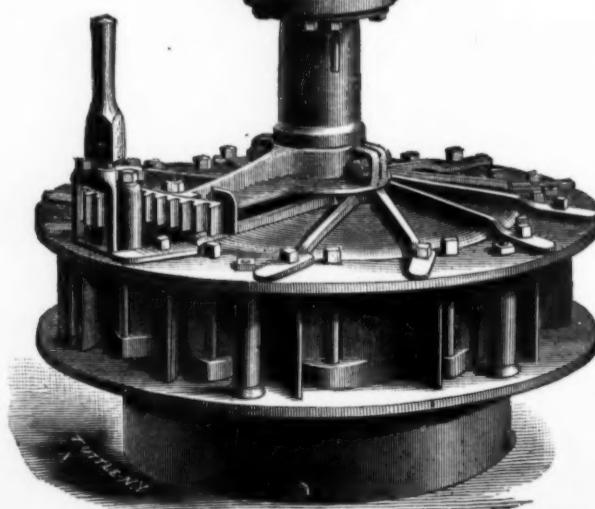
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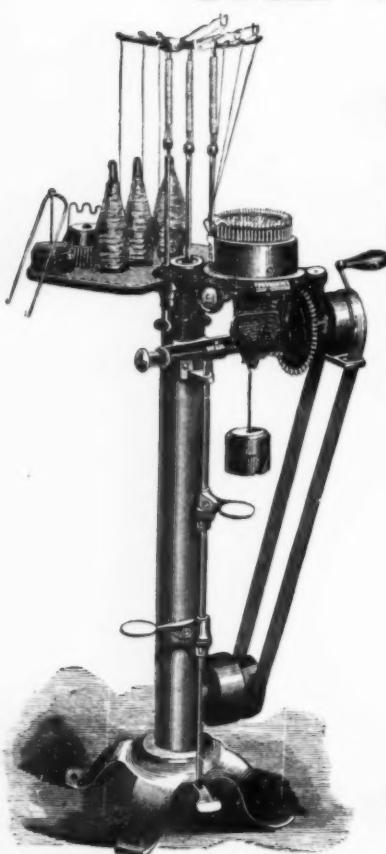
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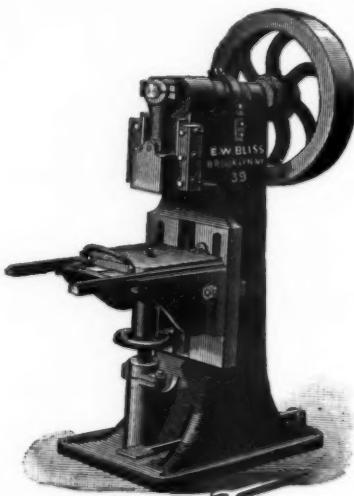
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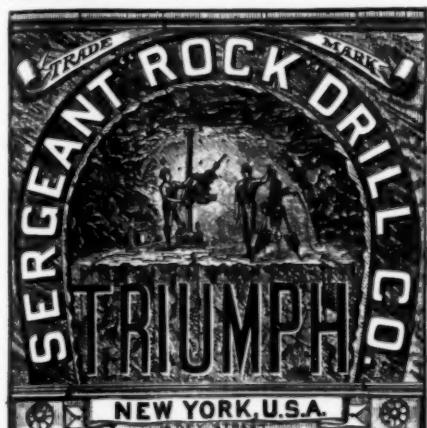
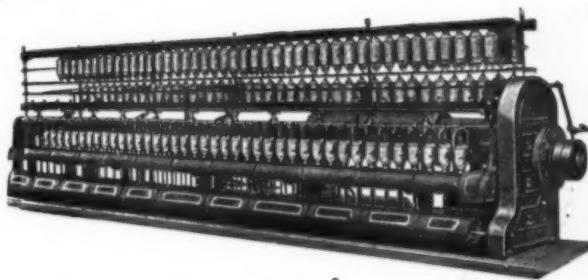
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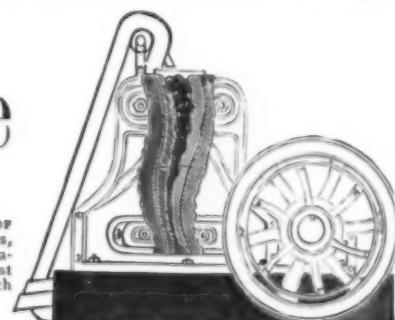
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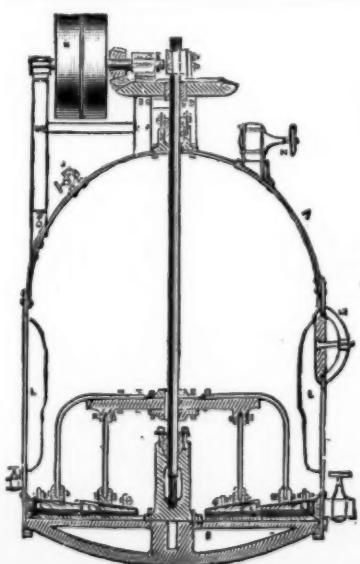


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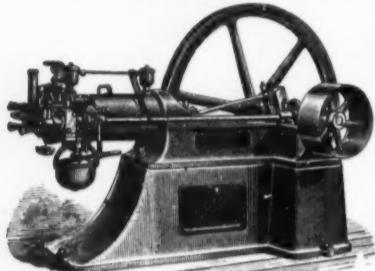
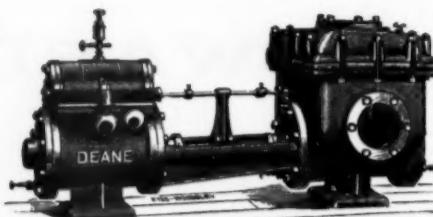
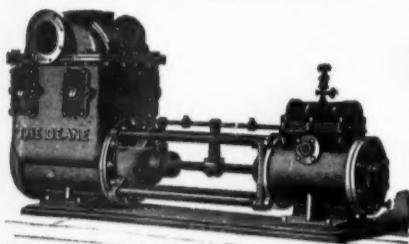
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# BALTIMORE Manufacturers' Record.

Published Every Saturday by the

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Extra for outside pages and opposite first page of reading matter.

BALTIMORE, APRIL 3, 1886.

## The Effect on English Industries of the Tariff in the United States.

One by one the old stand-by arguments of the free traders are shown to be without foundation. One of their pet doctrines for many years was that free trade gave greater prosperity to the manufacturing interests of Great Britain than protection did to those of America. Since this has been so thoroughly disproved by the several industrial depressions of late years in that country, this argument has been retired from active service. Another favorite doctrine has been that in maintaining a protective tariff in this country we were really doing the manufacturers of England a great service by enabling them to control the world's markets, which the free traders claim they could do, so long as American manufacturers did not compete with them, and this, they said, could not be done while our protective tariff existed. They have said that, while our tariff operated against Great Britain's manufacturers shipping to this country, this loss was more than counter-balanced by keeping our manufacturers out of competition with them in foreign markets. This argument must now be laid aside. Great Britain is not longing for high protection in this country, as has so often been stated. The report of the Royal Commission, appointed to enquire into the business depression throughout Great Britain, contains some very strong statements about the damage to the trade of that country by high tariffs in other countries. Some of

the answers sent by the Chambers of Commerce were as follows:

*Aberdeen*—"Depression largely due to high foreign tariffs."

*Barnsley*—"Foreign tariffs at the bottom of all our troubles."

*Batley*—"Affected very injuriously and very considerably by foreign tariffs."

*Belfast*—"Foreign competition and foreign tariffs."

*Birmingham*—"Foreign competition in neutral markets. Foreign import duties on home manufactured goods exported abroad."

*Birstall* (near Leeds)—"Increased hostile tariffs on our manufactured goods exported, and the competition of foreign manufacturers in our home markets."

*Cardiff*—"Foreign tariffs have materially affected our iron and steel trades."

*Cleckheaton*—"Foreign tariffs are decidedly injurious to the trade of this district."

*Dewsbury*—"Foreign tariffs have greatly injured our trade."

*Dublin*—"The depression of trade is, to a great extent, caused by the levying of high duties on goods exported from the United Kingdom."

*Dudley*—"Trade is greatly restricted and returns diminished by adverse foreign tariffs."

*Dundee*—"The imposition of very high tariffs on goods of British origin by the countries on the Continent of Europe; also, the duties imposed upon these goods in the United States."

*Halifax*—"Trade seriously affected by foreign tariffs."

*Hartlepool*—"Foreign tariffs and countries have undoubtedly injured our trade in certain branches."

*Hockmondwick*—"Foreign tariffs have undoubtedly injuriously affected the trade of this district."

*Huddersfield*—"The protective tariffs of other countries, and even of our own colonies, have much to do with the present depression. Their effect is most seriously felt on low goods."

*Leeds*—"Foreign tariffs have seriously injured the traders of this district."

*Leith*—"The present depression arises from over-production, foreign competition and the system of foreign tariffs and bounties."

*Liverpool*—"If hostile tariffs were ameliorated, and more especially foreign bounties abolished, the increase in our industry would be great."

*Manchester*—"Foreign tariffs are the bane of our existence."

*Morley*—"Protective and hostile tariffs of other countries, and especially our own colonies, have much to do with the present depression."

*Newark-on-Trent*—"Foreign tariffs, to a great extent, especially in cases where they have been recently increased and bounties given."

*North Shields and Tynemouth*—"Foreign tariffs and competition are both felt oppressive."

*North Staffordshire*—"Foreign tariffs to a serious extent."

*Ossett*—"The trade of our town and country generally would be greatly improved if the foreign tariffs were removed, or a corresponding duty imposed upon such manufactured goods as are imported from any foreign country."

*Salt Chamber of Commerce*—"Prohibition duties in foreign countries, competition on the part of foreign countries, salt being imported into England and our colonies."

*Southampton*—"Foreign duties."

*South of Scotland Chamber of Commerce*—"Foreign tariffs affect our trade prejudicially."

*Sunderland*—"Foreign tariffs affect glass and bottle trade adversely."

*Wakefield*—"Increasing foreign competition."

*Wolverhampton*—"Foreign competition one of the main causes of the altered condition of trade."

*Worcester*—"Gloves and porcelain are directly affected by foreign competition and tariffs."

## A Big Scheme.

In a late issue we stated that it was reported that Mr. H. F. de Bardeleben, of Birmingham, had organized a company to build two furnaces and a steel plant at Jonesboro, 13 miles from Birmingham. The plans for this new enterprise have been made on a very extensive scale, and if carried out will result in developing another great industrial center in the South. Mr. de Bardeleben states that the company will have a capital of \$3,000,000, and that they are going to build up a city that will contain 8 furnaces within two years. Two railroads are to be built to this town. In an interview with a Birmingham Age reporter, Mr. de Bardeleben said:

"No stockholder will be allowed to come in who can't make smoke. It will take \$100,000 to come in, and the man who can make smoke can have the most stock. In less than twenty-five years the two cities (Birmingham and Jonesboro) will meet half way, and Birmingham will have a population of 200,000. The story of the place is not yet told. It is only a village. I have bought in the past two weeks \$125,000 in real estate, centrally located, that I paid high prices for. That property is not for sale in Birmingham. I am going North and place it on the market. We will organize Monday afternoon, and I will visit New York, to place some Birmingham property on the market, and will then go through to Pittsburg, to order material for two furnace plants, and make arrangements for the steel plant we propose establishing at Jonesboro."

With what astonishing rapidity the South is developing these gigantic enterprises that we are reporting week after week very clearly show. It is not alone American capitalists, but moneyed men from Europe that are investing so liberally in the South. Moreover it is not simply in the establishments of big enterprises requiring immense capital that progress is seen; in the smaller and more widely diversified industries, which are essential to the permanent industrial growth and prosperity of the South, there is also great activity. Almost every line of manufacturing is represented in the new enterprises that are being organized. As month after month passes the industrial—and hence naturally the general business—outlook of the South becomes more promising.

THE first chain factory in the South is about to be established in Birmingham, Ala.—American Engineer.

That is a mistake. This factory has been in operation for several months, and is crowded with orders. It is only for a very short time when it can be said that any new enterprise "is about to be established in Birmingham." If the Birmingham people begin to talk seriously about starting a new factory, it is only a few days before the buildings are being erected. Birmingham is a good illustration of what the New South is doing. It is an example of the push and enterprise of that section.

WESTERN North Carolina and East Tennessee constitutes what may well be called the Switzerland of America. It has been called with propriety the "Slagland region." A railroad taps it, the Western North Carolina. The soil is rich, and produces large crops of all kinds of farm products. It is adopted to grazing also. The capabilities of the county are almost illimitable. A religious paper published in that vicinity, the Blue Ridge Baptist, brings us in meager outline a story in real life more wonderful than anything the imagination of Miss Murfree has portrayed, and especially interesting from the glimpse thus afforded of the true solvent for the Southern problem.

It is now only six months since a California capitalist, who had sought that region as a sanitarium, began the founding of a town in the midst of a tract of 80,000 acres of land which he bought, and upon which homes are procurable without capital. Not that he professes to give away the land, like the United States Government, to actual settlers, but that he proposes to sell it on long time to actual settlers upon certain conditions. The survey is being made on the Piedmontese plan of observing natural boundaries and conforming to the convenience of cultivation. In two month's time not less than 25,000 acres were sold, and a prosperous manufacturing town is now furnishing employment to thousands of workmen. After being so long hemmed in by mountains, the region has burst the cerements of a living death and is developing with a rapidity more than magical. It only needed the enterprise of one man to inaugurate an era of development and set in motion a train of events big with the promise of revolution to all that region.—Chicago Inter-Ocean.

Of the resources and attractions of Western North Carolina the Inter-Ocean can hardly say too much. It is certainly a magnificent country, magnificent in scenery, in climate and resources. But we think it is a good deal overdrawn to say that a new town has lately been founded there giving employment to thousands of hands. Dr. Clark Whittier did purchase about 75,000 acres of land which he is offering to sell on long time, but it is hardly probable that 25,000 acres have been sold in two months. Moreover, the "prosperous manufacturing town furnishing employment to thousands of workmen" is a thing of the future. As yet the town of Whittier is too small to be called a manufacturing center.

WE know of no journal that has done more for the development of the South than the Baltimore MANUFACTURERS' RECORD. They are in direct communication with all parts of the South, their correspondents are reliable and enterprising, and as an advertising medium this paper is not to be excelled. The publishers are energetic and thorough going business men, and held on and worked up where most men would have become discouraged. And the result is a prosperous journal that continues to grow as it deserves to do. It is devoted to the South and her interests, and we should rally to them.—Atlanta Capitol.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

## Our Birmingham Letter.

## Rapid Advances in Real Estate Values—Some Remarks on the Tariff, etc.

[Special correspondence MANUFACTURERS' RECORD.]

BIRMINGHAM, ALA., March 29, 1886.

The boom which has been hovering over Birmingham for some time has lit on us in good earnest and with every indication of a determination to stay. Real estate values had been advancing steadily from the 1st of January, and some farther improvement was looked for; but nobody appears to have had any idea that prices were likely to reach the point they have, for another year at least. But the consummation of Mr. de Bardeleben's deal with an English company, and the announcement that he and the corporation in question intended to build up a suburban manufacturing town, with 8 furnaces and a steel plant to begin with, at Jonesboro, acted as a strong stimulant to the market, and the situation was farther excited by heavy purchases by Eastern and Northern capitalists, and by the movements of the Georgia Central and Kansas City, Fort Scott & Gulf interests, both of which have made their arrangements to build to the town. All sorts of city property have advanced from 30 to 100 per cent. in two months, and more transactions have been made in that time than were noted for a whole year previously. To give some idea of the rapidity with which property has advanced in value: A lot 90x140 which Dr. Caldwell bought in 1876 for \$1,250, he sold in August, 1885, to Johnson & Boddie for \$10,000. In March, 1886, they sold 40x100 of the same lot for \$7,600, and the whole property is worth to-day at least \$30,000. In 1883 the Elyton Land Co. sold the corner of First avenue and 20th street, 100x182 feet, to Messrs. Moore, Moore & Handley for \$15,000. In 1884 they sold off 50x100 feet of this property for \$15,000, thereby clearing their purchase. The same 50 feet was sold for \$21,000 a little later. The remainder of the lot is saleable now, without improvements, at \$88,000. So it goes! One sees fortunes made almost daily.

\* \* \*

I observe that the Iron Age is somewhat exercised over the proposition to pool a lot of coal properties in this district, and seems unwilling to accept the statement made through your columns, that there was nothing in the movement beyond a desire to get scattered properties into such a shape that they could be handled. As a matter of fact, the project fell through, and is therefore hardly worth discussing; but if it had been successfully carried out, it would have made but a small hole in the market. There are many thousands of acres of first-class coal lands yet to be had for money at low rates and on easy terms, as investors may readily enough ascertain by making application for some.

\* \* \*

It is with heartfelt satisfaction that I observe signs of regeneration in Kentucky! The Louisville Courier-Journal throws up the sponge in the tariff fight, and the town of Winchester, in the heart of the blue-grass region, is to have a progressive paper to be called the "Industrial Kentuckian." It is to be conducted by the Hon. Thos. G. Stuart, whom I used to know as one of the brightest among the younger members of the legislature at Frankfort. If the people of the State are not stirred up to do something more than has been their wont for the development of the rich resources of the Commonwealth, it will not be his fault. But returning to the tariff! The free trade organs unite in the assertion that one of the chief causes of defeat this session has been the strong pressure brought to bear upon Southern Congressmen by their industrial constituents. This new political force of Southern protection sentiment is a mule that never kicked the free traders before, and they have hardly yet awakened from their surprise at the location and strength of its heels. It is very plain that the entire pro-British party is sadly demoralized, and, in view of the attitude of the united labour organizations, I think it doubtful if the present tariff stands in much danger for several years to come. All the same, the Southern people interested in proper protection to native industry should not take any such thing for granted. Tariff revision would put billions into the pockets of British manufacturers, and we may be sure that the astute class in question will not hesitate to spend money to keep up the agitation while there is a ghost of a show for free trade. Again, we are not out of danger from the whisky lobby. It is true that if we are to have a ship railway across the isthmus, a decent navy, and anything like respectable coast and harbor defences, the customs and the internal revenue together will not produce more than a fairly liberal Congress could appropriate any day in the week; but this perhaps applies only to the present. By and bye, when we have the defences and the navy, there may be too much money in the public pocket, and then once more we shall have to meet the question of reduction of revenue. If at such a time the internal revenue system should be still alive, then protection will be in danger. It cannot be otherwise than in constant danger while there is a vestige of the internal revenue system left. We ought to manage in some way to abolish internal revenue before the free traders recover from their present surprise enough to give us another whirl.

G. B. WEST.

Appearances are that the Morris mine, which has enjoyed a good deal of a monopoly in the production of ores, is to have some pretty stiff competition before long. A new ore mine is being developed near Trussville, and property has been bought close to Birmingham which it is said is for account of an experienced New Jersey ore miner. The market for ore is constantly increasing. Probably Mr. Morris' output does not fall much short of 1,200 tons per day, about 400 of which goes to points between here and Chattanooga, including that place.

\* \* \*

## The American Exposition.

[Special correspondence MANUFACTURERS' RECORD.]

NEW ORLEANS, March 27, 1886.

There has been no time since 1876 when people who attended the Philadelphia Centennial have had the chance to see, as they can here, what immense progress has been made in glass and pottery production since then. But Ohio, whose little association of ladies sent some beautiful specimens of their work to Philadelphia, has here a great display from her potteries, showing not only the more common wares, but also many tables filled with choice specimens of the ceramic art. The lessons taught in 1876 have enabled New Jersey, Ohio and some other States to put on exhibition here wonderful evidences of their ability to compete with European manufacturers in the successful production of the finest wares. Arkansas, Alabama, and several other Southern States, have exhibits of clays and sands equal to any found in New Jersey or Ohio for the production of porcelain and glass, and to those who understand the business and have the capital to prosecute it they offer every facility for establishing such manufactures.

## ARGUMENTS FOR PROTECTION.

That they are appreciated will soon be learned by whoever will converse with the gentlemen having them in charge. In fact, the growth of the protective sentiment in this section is even more rapid than its manufacturing development. Owners of properties which they wish to have utilized have come to understand that if protection could be absolutely assured for a term of years there would be much greater progress than at present, and a feeling of intense dislike against free trade politicians and advocates has been aroused that will soon be thoroughly understood by Southern Congressmen, if by no one else. As an old man from North Alabama expressed it the other day, "any Congressman that puts a block in the way of protection will get run over."

## THE WORLD'S COMMERCE.

and our relations thereto, are admirably portrayed in a series of object lessons near the center of the Main Building. Mr. Charles S. Hill, of Washington, who resigned his position in the Department of State that he might give his time wholly to the obtaining of a Consular and Diplomatic exhibit, has arranged this display with an intelligent appreciation of the kind of information American business men need. In his letter to President McConnico announcing its installation, Mr. Hill said:

The purpose of this exhibit is to demonstrate the valuable information officially communicated and published in the monthly Consular Reports, a copy of which will be given gratuitously, and mailed regularly to anyone appreciating and desiring these commercial magazines, if request is made with written address.

The feature of this exhibit is in harmony with the Exposition, hemispherical, divided in illustration and contrast between the old continents of Europe, Africa, Asia, and Australasia, and the new continents of America; presenting the marked characteristics in trade under the Consular Corps in its commercial work, and in social association under the Diplomatic Corps in its ethical duty, with a view to encouraging our home labor, and to finding foreign markets for our surplus commerce, where a demand exists; and by such official information through these channels, to aid our export trade, and to protect and guide our agriculturists and manufacturers, by illustrating the sorts, styles, quantity and quality of goods or products wanted in the different parts of the world. It is therefore a purely technical school for the tradesman and economist. This labor was begun in 1880, through a meager appropriation of Congress for the editing and publishing of the Consular Reports, which interesting matter and knowledge, had, previous to that time, been confined in the department's archives, or printed two years after date, without proper editing and verification.

Attention is not confined to city property. The excitement has affected outside matters as well. The probabilities of large industrial growth in the immediate future has created a heavy demand for iron property at higher prices than were ever before deemed possible. Of the two desirable properties in the market at the date of my last letter, one, that at Red Gap, was closed out at \$45 per acre, and the remaining one, only 160 acres, is held at considerably over \$100 per acre. Coal lands, which have been rather dull sale since the holidays, are also coming to the front, and several Eastern syndicates are looking around for choice selections. The railway land departments have the best and cheapest things in this line now on the tapis, as private owners able to hold are not offering to any extent. For two weeks without a break the situation has been firm and advancing, and there is every promise that certain developments important to Southern industry, which are likely to transpire this week, may give us another spurt.

\* \* \*

There is absolutely nothing new in the direction of pig iron production. Prices remain as at last report; market steady. Orders are coming in freely as usual from the East for foundry and from the West for mill irons. All iron lines are active and without quotable change. In general business the situation is quite satisfactory. Merchants and shopkeepers all report good trade and are happy. The total amount of liabilities in connection with all the business failures in Birmingham for the year 1885 did not amount to \$30,000.

After further explanations and citations from many influential papers and writers, Mr. Hill concludes his letter as follows:

The Consular and Diplomatic Service constitutes a force unequalled in serviceability, accuracy, promptness and economy, in obtaining the truest data, and best matter of interest in giving to our people of every class, whether the laborer, the capitalist, the home merchant or the foreign exporter, the student or the traveler, information and means of developing a genius for invention, modelling or designing, as well as in developing American labor at home, and disseminating American trade abroad, if carried in American ships.

The peculiar difficulty in preparing this exhibit however, is from the unavoidable delay in receiving such samples of industry from the furthest parts of the world, and from the multiplicity of small characteristics of local trade rendering it very expensive to catalogue in detail. The continual arrival of many, and more diversified illustrations, will add also monthly to its value and interest, and serve particularly in affording means for distinguishing the genuine from the imitation article or trade mark, as well as comparing the tastes, conditions, and progress of every nation.

Mr. Hill was more than right in anticipating great delays in the arrival of goods from abroad. Every mail brings him advices of fresh shipments, and it is not at all improbable that many will be received after this Exposition shall have closed. But be that as it may, it is beyond question that this unique collection, drawn from all quarters of the globe, is, for the purposes intended, one of great value to every productive and commercial interest. It ought to be exhibited at all our great commercial and industrial centers and then placed in the National Museum at Washington, and added to from year to year through the efforts of the United States consuls in all parts of the world.

It would be doing rank injustice to fail to say a word or two in commendation of those progressive citizens of New Orleans, who, without other inducements than an ardent desire to help forward our trade intercourse with Latin America, have given freely their money, time, talents and energies to make this Exposition a success. All that men could do, more than most men would have done, they have done cheerfully. President McConnico, Director Generals S. H. Buck and B. D. Wood, the editors of the Times-Democrat, Picayune and States, and many others, have labored assiduously and spent their money freely in this endeavor. Although they have not met with financial success, they have demonstrated by the grand work of the last three years that the tremendous energies which the South put forth during the war, its people are now applying to secure "the greater victories of peace."

B. S. P.

THE Baltimore MANUFACTURERS' RECORD is one of the best publications of the day, and has a large circulation in the South. It is doing a great deal toward the development of the resources of this section.—Nashville (Tenn.) Banner.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$3.00 a year.

### Improved Stone Channeling Machine.

Blasting plays an important part in the quarrying of stone for burning lime, for road-bed ballast, rubble, street pavement, and is still resorted to in slate quarries; but in that important industry, the quarrying of dimension stone, the blast is now seldom heard, and the channeling process is daily growing in favor. This process consists in cutting long, narrow channels or deep grooves along the floor of the quarry, for the purpose of freeing the sides of the blocks of stone to be taken out. After the channels are cut to the required depth, and a free face obtained along one of the cuts, the next step,

the one most generally used, and will serve to illustrate the principle.

It is thus seen that the channeling process is not, as it is popularly supposed to be, a complete cutting out of the stone in blocks; but it is a means by which artificial seams or beds are produced in positions most favorable for the action of the wedges or plugs and feathers.

The accompanying illustration represents an improved channeling machine, recently introduced by the Ingersoll Rock Drill Company, of New York, the engraving being made from photographs taken at the Ohio Sandstone Quarries, which have not been slow to adopt this improvement. The apparatus consists of a direct acting engine,

This is the only direct acting channeling machine which possesses this feature.

This feed motion is imparted to the car on the upward stroke of the piston only; the car remains stationary when the blow is struck. This feed averages three-quarters of an inch per stroke. The strokes average 240 per minute.

As the cutting tools are made adjustable to any angle to the right and left, and forward and backward, the machine is capable of making transverse and side hill cuts, and does what is known as cutting out the corners in quarrying. The machine has but two quick moving parts—the piston, with cutting tools attached, and the valve. The stroke varies about six inches in length, running from two to eight inches. This is accomplished without extra parts or mechanical adjustment. The machine will start with a stroke of three inches, and continue operating without attention until the cut is five inches deep. The engine and cutting tools are fed downward as the cutting proceeds, and the drills can cut a channel eighteen inches in depth without unclamping or stopping the machine. There is but one clamp or chuck for the drills, there being no upper clamp. Thus, the drills are short and handy for use in the shop and while being changed in the cut. By a stop valve placed in the lower steam port, the blow can be regulated so that it will strike with only a light touch or with a blow of 3,000 pounds in force. As the machine is light in weight, and occupies but little space, it can be used in a chamber where the distance between the floor and the roof is but six feet.

The boiler is of an improved design made specially for the purpose, with submerged flues, and has a water tank attached, from which the boiler is fed by means of an injector.

The efficiency and stability of this apparatus have been sufficiently tested and demonstrated by work in all kinds of stone. It has been most successfully used by the Vermont Marble Company, of West Rutland, Vt.; the Green Serpentine Marble Company, of Conowingo, Md.; by the Atlantic Stone Company, of La Grange, Ohio, and at many other well-known quarries. The average capacity of the machine in various kinds of stone is given as follows: In marble, 80 to 100 square feet of channel cut in ten hours; in limestone, 120 to 150 square feet; in sand-stones, 150 to 200 square feet; in granite, 40 to 60 square feet. The machine has already made a record of 260 square feet in sandstone and 230 feet in limestone in a day of 10 hours.

[Special correspondence MANUFACTURERS' RECORD.]

CHARLOTTE, N. C., March 29, 1886.

With average white cotton, used in dyeing mills, at about  $8\frac{1}{4}$  to  $9\frac{1}{2}$ , and a better demand for plaids, the Southern factors are in rather a better state of business mind than at this period last year. A very marked feature of present inquiries is the application of nearby merchants, who distribute to the interior more largely now than for the past decade. The ordinary checks and plaids made in this section, and which heretofore found only markets in the Middle and Western States, are more favorably looked upon since improvements in machinery and more skilled labor are bringing them up to the standard of the New England "ordinaries," with a material difference in price in favor of the South. The idea of "buying elsewhere" is dying out here as well as in the industrial districts of other parts of the country, and when this more sensible view shall be taken by all, the South will have no goods to spare for beyond its borders. Home consumption necessarily increases local capital, makes better wages and begets enterprise. From all indications, the spring outlook is favorable, and the low price farmers received for their last crop of cotton will be made good by a better market the coming season.

F. A. S.

PRICE & LOOFMAN, Ringwood, N. C., want prices of cotton gins.



THE INGERSOLL STONE CHANNELING MACHINE.

if there are no free beds, is to release the mass at the bottom. This is done by means of a "gadher," and consists in drilling or "gadding" a series of horizontal holes along the bottom of the bench, and in line with the new floor, and then releasing it by the splitting action of wedges, or "lofting" it, as it is called by quarry men.

After the bench is thus raised from its bed in mass, it is next split into blocks of the required thickness or dimension by means of wedges or plugs and feathers. The process of cutting up the blocks after the channels are made varies somewhat in the different quarries, according to the nature of the stone, but the method above described is

having the piston and valve of the standard Ingersoll "Eclipse" drill, with a gang of cutting tools attached to a crosshead which is fixed to the piston rod, the whole mounted in a vertical position upon an adjustable support, fixed to a carriage which moves automatically upon a portable track laid alongside of the cut about to be made.

This machine is direct acting, that is, the cutting tools being attached rigidly to the piston, the blow is dealt directly by the steam pressure in the cylinder and without any intervention of crank shafts, levers or springs. The feed motion of the carriage upon the track is operated by and dependent upon the engine which strikes the blow

# CONSTRUCTION DEPARTMENT.

**WE PUBLISH**, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

#### ALABAMA.

The Birmingham Street Railway Co., Birmingham, Ala., have increased their capital stock to \$60,000. They are extending their road and will build a two story stable 60x150 feet.

A saw mill is being erected near Andalusia, Ala., by J. A. Prestwood.

Smith & Eastman are developing an iron ore mine 13 miles from Birmingham, Ala., and will also mine white sand.

The Pratt Coal & Iron Co., Birmingham, Ala., previously reported, have commenced work on 250 new coke ovens, and will, it is said, erect 250 more as soon as the others are completed.

The Woodward Iron Co., Wheeling, Ala., will hold a meeting April 7, to consider the question of increasing their capital stock to \$1,000,000.

H. S. Palmer, of Chattanooga, Tenn., has started the manufacture of artificial stone, at Huntsville, Ala.

It is stated that a Michigan capitalist will erect extensive lumber mills near Tuscaloosa, Ala. A street railway company is being organized, and a compressor is projected at the same place.

The Calera Land Co., Calera, Ala., at a meeting, March 25, decided to issue bonds to the amount of \$150,000, to be used in the development of their property.

The Elyton Land Co., Birmingham, Ala., are erecting a building, which will be used by Mr. Coleman, of New Orleans, La., as a machine shop, for manufacturing sugar cane mills.

Henry F. de Bardeleben, of Birmingham, Ala., Robt. Adger, I. Ellison Adger, David Roberts, Moses E. Lopez, Jos. S. Murdock, Augustine T. Smythe and Jno. H. Murdock, of Charleston, S. C., W. S. Manning, of Spartanburg, S. C., Geo. S. Brown, of Baltimore, Md., Collin C. Wyllie, Jno. F. Gordon, Alfred Parish, Dillwyn Parish and E. H. Watts, of London, Eng., have incorporated at Birmingham, Ala., the de Bardeleben Coal & Iron Co., capital stock \$2,000,000, to do a mining, manufacturing and industrial business. The material for erecting two furnace plants at Jonesboro will soon be purchased. It is proposed by the company to erect a steel plant also.

J. N. Wade is erecting a grist mill at Town Creek, Ala., and W. C. & J. C. Bracken will erect one.

Milner, Caldwell & Flowers, Bolling, Ala., will build a large saw mill near Mobile, with a capacity of 60 M feet per day.

#### FLORIDA.

J. F. Kehoe has purchased machinery for a saw mill which he will erect at Blackwater, Fla.

Mr. Minchener, Lane Park, Fla., contemplates erecting a wagon, carriage and furniture factory.

C. J. Chittenden is erecting a mill near Oviedo, Fla.

J. A. Cloud, Jacksonville, Fla., is corresponding with parties in Pensacola, Fla., in regard to the establishment of an electric light plant.

D. S. Williams is president; G. M. Lee, vice-president; George W. Brown, secretary, and J. M. Blair, treasurer of the Ocala Fertilizer Co., Ocala, Fla., previously reported as incorporated. A site has been purchased, and works will be built.

Thomas G. Eaton, reported last week as having made a proposition to build gas works at Sanford, Fla., will erect the works and have them in operation by December 1.

#### GEORGIA.

J. W. Baum, J. H. Mecaslin, Walter A. Taylor, E. E. Howard, J. W. English and others have incorporated at Atlanta, Ga., the Southern Box Factory, to manufacture boxes, buckets, barrels, &c.

It is reported that John D. Heard, Danbury, Ga., will start a factory for manufacturing agricultural implements.

Lee & Wichart are erecting a new mill two miles from Allapaha, Ga.

B. B. Gray & Bro., Allapaha, Ga., are extending their tram-road several miles.

The Perkins Manufacturing Co., Harrison, Ga., are building a planing mill, shingle mill, and sash, door and blind factory.

W. J. Joyner will soon enlarge the capacity of his planing mill at Tennille, Ga.

W. A. Davis, Halycondale, Ga., is rebuilding his saw, grist and planing mill, previously reported as burned.

#### KENTUCKY.

William McNamara, Ernst Semple, Samuel Woodside and J. W. Seals have incorporated at Covington, Ky., the McNamara Tobacco Co., capital stock \$50,000, to manufacture tobacco.

Fanny Speed will erect a six-story brick building at Louisville, Ky., at a cost of \$35,000.

J. L. Allan will add a saw mill to his grist mill at Allansville, Ky.

C. W. Russell, of the Red River Iron Works Manufacturing Co., Red River Iron Works, Ky., has leased the Estill Furnace property at Furnace, Ky., and will put the furnace in blast during May.

G. W. Adams & Co., Lexington, Ky., have fitted up a mill with machinery for manufacturing spices and baking powders.

The Collins & Rudy Lumber Co., capital stock \$60,000, has been incorporated at Maysville, Ky., by H. H. Collins, John R. Rudy and John I. Stansbury.

#### LOUISIANA.

Madison Parish, La., in addition to erecting the \$7,000 jail at Tallulah, previously reported, will build a \$21,000 court-house.

It is rumored that the Union Oil Co., New Orleans, La., will build works at Algiers.

#### MARYLAND.

W. Klipstine will move his steam saw mill from Bloomington to Frankville, Md.

E. P. Covey will, it is said, erect a phosphate factory at Federalsburg, Md.

The McCarty Fer Hydric Gas Co., office at 430 Walnut street, Philadelphia, Pa., contemplate erecting gas works at Hagerstown, Md., and Washington, D. C.

Wilbur Eliason has leased the mill of the Chestertown (Md.) Strawboard & Manufacturing Co., and will add new machinery, doubling the capacity.

A bill has been introduced in the Maryland legislature to incorporate the Citizens Gas Light Co., of Cumberland.

Reinle Bros., Baltimore, will put a new 75 horse-power boiler and engine in their showcase factory.

George F. Patterson, Baltimore, is organizing an electric light company to use the Thompson-Houston system.

#### MISSISSIPPI.

The Vicksburg Street Railroad Co. have commenced work on their road at Vicksburg, Miss.

#### NORTH CAROLINA.

J. C. Monach contemplates starting a steam laundry at Goldsboro, N. C.

The Fayetteville Ice Manufacturing Co. has been formed at Fayetteville, N. C., with J. B. Starr as president. An ice machine has been purchased and will be erected at once. The daily capacity will be about 5 or 6 tons.

J. S. Atkins will erect a saw mill at Albemarle, N. C.

R. A. Threatt and J. E. Carelock, Monroe, N. C., are erecting the machinery for the chair factory previously reported to be started.

Scott, Donnell & Scott, Graham, N. C., previously reported as having sold their cotton factory to L. Banks Holt, have purchased a site for the erection of buildings for manufacturing purposes.

John I. Beggs, J. Wallower, Jr., Thomas H. Heist and W. T. Hildup, Jr., of Harrisburg, Pa., have bought the Rudisill Gold Mine at Charlotte, N. C., for \$40,000, and with E. Z. Wallower, of Harrisburg, and T. C. Dunn, of Charlotte, incorporated the Rudisill Mining & Milling Co., capital stock \$200,000. New machinery will be added to increase the mining capacity.

Hoisting machinery is being erected by the Uwharrie Mining Co. at their mine in Randolph county, N. C., and a stamp mill will soon be put up.

The North Carolina Talc & Mining Co., will open mines near Jarrett, Swain county, N. C., at once, and erect mills for grinding the talc. Will also erect several lime kilns.

A. F. Lucas has purchased machinery, which he will erect at the Todd mine, five miles from Charlotte, N. C., to develop it.

Hilton & Erwin have erected machinery at their mills at Charlotte, N. C., to manufacture shuttle blocks. The capacity is 1,000 blocks per day.

It is stated that the Rock Creek Manufacturing Co., Curtis' Mill, N. C., will move their cotton mills to Gibsonville.

William Mangum, Durham, N. C., has purchased carding machinery which he will erect and operate at his saw and planing mill.

The Hickory Manufacturing Co., Hickory, N. C., have recently added new buildings and machinery to their works, and J. C. Fry & Co. have added a grist mill to their lumber mill.

The Piedmont Wagon Co., Hickory, N. C., have recently erected a brick building for an engine and boiler room and machine shop, and have placed some new machinery in their factory.

Mr. Robinson will, it is stated, erect an electric light plant at Charlotte, N. C., by May 20.

W. L. Holt and Edwin C. Holt will erect a new steam cotton mill at Company's Shops, N. C.; 100 looms and 2,000 spindles will be put in.

#### SOUTH CAROLINA.

Knight & Bruner, Harleyville, S. C., have put additional machinery in their saw mill.

#### TENNESSEE.

The American Wire Hoop Co., capital stock \$250,000, has been organized at Jackson, Tenn., with L. J. Brooks as president and D. L. Murrell, secretary.

The Memphis Thompson-Houston Electric Light Co. has been chartered at Memphis, Tenn.

It is said that W. H. Brown will start a handle factory at Greeneville, Tenn., soon.

Hunt & Ames will erect a grist mill at King's Point, Tenn. Have purchased the machinery.

David N. Coil is erecting a steam saw and grist mill near Beaver Creek, Tenn.

A stave factory is being erected near McKenzie, Tenn., by Moore & Co.

The Equitable Gas Light Co., capital stock \$500,000, reported last week as organized at Memphis, Tenn., with Thomas H. Milburn as president, will build works.

The South Tredegar Iron Co., Chattanooga, Tenn., have completed the erection of a Bessemer steel plant with a capacity of 50 tons.

A fruit canning factory will be erected at Chattanooga, Tenn., it is stated.

The Bon Air Coal, Land & Lumber Co., Nashville, Tenn., expect to build a railroad to their coal lands in White county, and open mines with capacity of from 30 to 50 cars of coal per day. The company own about 12,000 acres.

The stockholders of the Pioneer Cotton Mill, Memphis, Tenn., have reorganized and will start the mill up soon. \$35,000 worth of bonds will be issued, the proceeds to be used as working capital.

Gilbert & Whitsett are erecting a planing mill at McKenzie, Tenn.

John H. Ferguson, Dayton, Tenn., has leased iron-ore lands near Spring City, Tenn., and will open mines to develop them.

Grant & Son, proprietors of the sash and blind factory at Johnson City, Tenn., have with others organized the Johnson City Furniture Co., capital stock \$20,000.

It is said that William Slawson and Mr. Hart will build a foundry and machine shop at Dayton, Tenn.

John W. Wells has started a brick-yard at Chattanooga, Tenn.

J. T. Wilder is opening a new iron ore mine at Roan Mountain, Tenn.

Henry Clark, Henry F. Dimmock, Watson H. Brewer, A. P. Bollar, W. F. Taylor and others have incorporated at Memphis, Tenn., the Memphis Bridge Co., to build a bridge across the Mississippi at Memphis.

#### TEXAS.

Shields, Booth & Clayton are developing a coal mine near Bowie, Texas.

The Kennendale Brick Co. has been formed at Fort Worth, Texas, with K. M. Van Zandt as president, to manufacture brick extensively.

It is stated that Byron Bunker will erect a new mill at Saledo, Texas.

R. W. Kendel, previously reported as to organize a company at Weatherford, Texas, to manufacture castor and other oils, has, with G. M. Bowie, H. P. Hilliard and others incorporated the Weatherford Castor Oil Co., capital stock \$25,000.

The contract for erecting the school building at Hillsboro, Texas, previously reported, has been let to Hughes & Boswell, at \$10,240.

#### LOCKWOOD, GREENE & CO.

#### MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I.

Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

The Dallas Cooperage Co., capital stock \$50,000, has been chartered at Dallas, Texas, by F. M. Cockrell, Thomas F. McEnnis, F. G. Moore, George J. Dexter and Robert Gibson.

Groscup, Keath & Capel will erect an ice factory at Abilene, Texas, and have it in operation by May 15.

Ed. Aber will shortly erect a planing mill and furniture factory at Troup, Tex.

L. Craddock, W. L. Hall, D. M. Clower, W. S. Simpkins and J. M. Wendelkin have incorporated at Dallas, Texas, the Electric Light & Manufacturing Co., capital stock \$35,000.

John Nugent, J. J. Burke and G. W. Britton have incorporated the Coalville Coal & Mining Co., capital stock \$10,000, at Palo Pinto, Texas.

Mike Butler, Austin, Tex., has purchased \$10,000 worth of new machinery for his brick yard.

#### VIRGINIA.

Norris Bros. have built an addition to their planing mill at Leesburg, Va., and will put in some new machinery.

Staunton, Va., will purchase a new pumping engine for their water works at a cost of about \$7,000.

E. C. Vincent will move his fence factory from Staunton to Richmond, Va.

A husk and mattress factory is to be started at Claremont, Va., by Charles Hammond.

Ward & Steinberger will build a large sash, door and blind factory at Claremont, Va.

#### WEST VIRGINIA.

The Newburgh Orrel Coal Co., office at Baltimore, Md., have purchased a large tract of coal land near Houltown, W. Va., which they will develop at once.

J. M. Guffey & Co. are preparing to drill several gas wells on their lands near Cameron, W. Va. They will pipe the gas to Wheeling.

#### BURNED.

The saw mill of the Calera Land Co., Calera, Ala., damaged several thousand dollars by explosion.

The blacksmith and machine shops and coach sheds of the Louisville & Nashville Railroad, New Orleans, La. The loss is reported as \$20,000.

The Magnolia flour mills at Sherman, Texas, owned by Stinnet & Rucker. Loss on mill is \$24,000.

Anderson & Lawrence's mill in Chattooga county, Ga. Loss \$3,500.

The gin of M. H. Wilson, Chambers, Ala.

A large fire, March 30, at Key West, Fla., destroyed over \$1,000,000 worth of property, including several cigar and cigarette factories.

H. E. & G. Faber's cotton factory at Prattville, Ala., wrecked by flood. The loss is said to be \$85,000.

#### Hoop Factory.

GAINESVILLE, Ga., March 25, 1885.

*Editor Manufacturers' Record:*

We are building a coiled hoop factory at this point, and are now putting up the machinery. The capacity will be from 6,000 to 7,000 per day. I believe this is the first enterprise of this kind in our State. The style of the firm will be Jennings & Co., but the writer is business manager and will run the concern.

E. P. CHAMBERS.

#### Enlarging Foundry and Building New Factory.

BALTIMORE, March 31, 1886.

*Editor Manufacturers' Record:*

We are rebuilding and enlarging our iron and stove foundry. We are also building a three-story factory in connection with the same.

S. B. SEXTON & SON.

#### Another Cotton Mill.

COMPANY SHOPS, N. C., March 30, 1886.  
*Editor Manufacturers' Record:*

We expect to build a new steam cotton mill at Company Shops, N. C. Expect to put in 2,000 spindles and 100 looms. My brother, Edwin C. Holt, will be my partner.

WALTER L. HOLT.

#### Grist Mill.

CHARLOTTESVILLE, VA., March 26, 1886.  
*Editor Manufacturers' Record:*

Our grist mills are in operation, and we expect to add flour mills, full roller process, by 1st of August.

ANDREWS & ELSOM.

#### Grist and Saw Mill.

AUBURN, ALA., March 27, 1886.  
*Editor Manufacturers' Record:*

I am putting up building for a grist and saw mill, and will put up a gin. Think I will start about the first of June.

T. B. TURNER & CO.

#### Furniture Manufacturing Co.

JOHNSON CITY, TENN., March 26, 1886.  
*Editor Manufacturers' Record:*

Our new organization is named Johnson City Furniture Co., capital \$20,000. Will manufacture furniture principally; also sash and doors.

GRANT & SON.

#### Flour Mill.

FARMINGTON, N. C., March 27, 1886.  
*Editor Manufacturers' Record:*

We are building a flour mill; will order the mills in a few days. Have already put up boiler and engine of 50 horse-power. We hope to be ready to start up by the first of June.

A. W. ELLIS & CO.

#### A Planing Mill and a Stave Factory.

MCKENZIE, TENN., March 26, 1886.

*Editor Manufacturers' Record:*

Messrs. Gilbert & Whitsett are putting in a planing mill at this place; and Moore & Co. are putting up a stave factory near here. Northern emigrants are coming in freely and land is on a boom.

CANNON & JACKSON.

#### Grist Mills.

TOWN CREEK, ALA., March 27, 1886.

*Editor Manufacturers' Record:*

There is one grist mill already started and one under way, which will be started soon. One is by J. N. Wade and the other by W. C. and J. C. Bracken.

J. H. HOUSTON.

#### Ice Factory.

ABILENE, TEX., March 24, 1886.

*Editor Manufacturers' Record:*

An ice factory is to be erected here by Messrs. Grosscup, Keath & Capel. Will be in operation by May 15, 1886.

H. H. HARDEN.

MONTGOMERY, ALA., March 27, 1886.

*Editor Manufacturers' Record:*

We are about to erect a compress at Montgomery as a sample of the compresses that we are about to build and have for sale before July 1st. It is all iron and steel. We have not decided yet if we will manufacture them here or give contract to some mills elsewhere. We have a cash capital of \$500,000. We have already sold in the last three weeks seven presses. Montgomery will be headquarters for our enterprise.

JOSEPH GABOURY & CO.

BALTIMORE, MD., March 29, 1886.

*Editor Manufacturers' Record:*

I am engaged in organizing an electric light company to use the Thompson-Houston system.

GEO. F. PATTERSON.

#### Coal Lands To Be Developed.

NASHVILLE, TENN., March 26, 1886.

*Editor Manufacturers' Record:*

The Bon Air Coal, Land & Lumber Co. expect to build a railroad to their coal lands this year and open mines with capacity of 30 to 50 cars of coal per day. They are now seven miles from the terminus of the McMinnville Branch Railroad. The directors expect to have the road under contract within sixty days.

W. MORROW.

MOUSE CREEK, TENN., March 25, 1886.

*Editor Manufacturers' Record:*

We have commenced sawing marble. It is of a dove color, receives a smooth polish, and is classed by some as lithograph stone. The cotton bat factory near Mt. Verd is doing good work. This company will improve their water in a short time, but the work will not interfere with the running of the factory. The Sweet Water Flour Mills are said to be the finest in the South. The great demand for their brands of flour is an evidence of its superior quality. John B. Whitman, Sweet Water, Tenn., is general manager.

P. N. SHULTZ.

#### \$500,000 Gas Light Company.

MEMPHIS, TENN., March 25, 1886.

*Editor Manufacturers' Record:*

Equitable Gas Light Co. is organized with \$500,000 capital. It is our intention to build works.

J. KATZENBERGER, Sec'y.

#### Doubling Capacity.

CHESTERTOWN, March 27, 1886.

*Editor Manufacturers' Record:*

I have leased the Chestertown Strawboard & Manufacturing Co.'s Mills, and intend to double our old actual capacity by adding rotary globes, beaters, &c.

W. ELIASON.

#### Gas Works.

PHILADELPHIA, PA., March 30, 1886.

*Editor Manufacturers' Record:*

The McCarty Fer Hydric Gas Company is now organized and contemplates erecting immediately works at Hoboken, N. J., Washington, D. C., Cleveland, Ohio, Belfountain, Pa., Bridesburg, Pa., Hagerstown, Md., &c. By this process gas is made from hydrogen—burnt in incandescent tips, giving 21 candle power—costing about 20 cents per M to the public. The heating gas will be equivalent to coal at \$1.75 per gross ton.

WM. M. McCARTY.

CHARLOTTE, N. C., March 29, 1886.

*Editor Manufacturers' Record:*

I and others have bought the Rudisill Mine. We know this mine to have been one of the best in the South, and we propose to develop it as far and as fast as an ample cash capital will enable us to do it.

THOMAS C. DUNN.

CEDAR KEY, FLA., March 27, 1886.

*Editor Manufacturers' Record:*

The Cedar Key Ice Manufacturing Co. has a capacity of ten tons per day, devoted to local fish and oyster trade. Are now engaged in boring an artesian well for factory use; down 675 feet and no water yet.

B. COACHMAN.

#### MINING NOTES.

By T. K. BRUNER, Salisbury, N. C.

##### NEW FIND IN RANDOLPH COUNTY.

The new find in Randolph county, near the Montgomery county line, promises to be a big thing. A cross-cut is being made and a distance of 18 feet fails to reach the opposite, or hanging wall of the vein. The ore is a solid mass of slate and quartz, and is said to show gold all the way.

#### GOLD HILL.

Two English gentlemen arrived last week at the Gold Hill Mines, in Rowan county, and will assume immediate control of the bookkeeping and underground work. Mr. Julian is in charge of the former and Mr. Wm. Nance of the latter. Two other "boss" workmen, carpenter and smith, are expected to arrive soon. Mr. A. C. Manney is retained as superintendent. At the

#### UWHARRIE MINE,

in Randolph county, they are building house for hoisting works. The stamp mill will go up next, then some buildings for operatives. They think the prospects most flattering for successful mining.

#### BRINDELETON DISTRICT,

in Burke county, is becoming active again, though only in a small way at present. The miners have been panning in the gulches since spring opened and are reported as making fair wages. The superintendent reports that the "Carolina Queen" is to be opened again. The Carolina Queen is owned by Boston capitalists, and the superintendent has recently visited that city in the interest of the property. It is a placer mine.

#### TODD MINE,

situated near Charlotte, is to be opened by Mr. Lucas. A prospecting shaft, 25 feet in depth, has been sunk, and Mr. Lucas proposes to investigate further. A small engine and hoisting machinery are being set up for this purpose.

#### RUDISILL CHANGES HANDS,

The Rudisill, probably the most famous mine in Mecklenburg county, changed hands on last Thursday, the 25th instant. It was bought by a party of Harrisburg (Pa.) capitalists as follows: J. I. Beggs, J. Waller, Jr., T. H. Heist and William T. Hildrups. They paid \$40,000 for the property, payments to be made in installments.

The Rudisill Mining & Milling Co. was thus organized, and the new company will go immediately to work. New ground is to be opened at once and some additional machinery will be placed. A working capital of \$10,000 has been paid in to start with. The ore at this mine is a heavy sulphure, and of late years has been shipped for reduction.

The St. Catherine Mine, near Charlotte, has reached a depth of 400 feet, and they are hoisting a good grade of ore from that depth.

#### STANLY COUNTY MINES.

The list below embraces all of the more important mineral localities in Stanly county. Distance and direction reckoned from Albemarle, the county seat:

Barringer—10 miles northwest.

Biles—7 miles northeast.

Crowell—9 miles northeast.

Cucumber—15 miles southwest.

Craten—15 miles southwest.

Eudy—10 miles west.

Furr—8 miles west.

Haines—10 miles west.

Harwell—15 miles southwest.

Hatchcock—3 miles southwest.

Hearne—3 miles southwest.

Honeycutt—13 miles southwest.

Jennings Crowell—10 miles northeast.

Littleton—9 miles northeast.

Love—17 miles southwest.

Louder—3 miles west.

Parker—7 miles northwest; a very fine placer property which has produced largely.

Rock Hole—17 miles southwest.

Shankle—8 miles southeast.

Trotman—7 miles northeast.

Tucker—15 miles northwest.

Besides these there are a number of small placer deposits which are worked regularly in a small way. The Biles and Parker are fine placer properties and some work is now being done at the former. The Crowell was active part of last year. The outlook, as reported recently, for the Barringer is flattering, and it is expected that some of the other mines in that county will become active soon; notably, those near Albemarle

### Automatic Feed-Pump and Receiver.

The accompanying engraving represents a new and improved form of Automatic Feed Apparatus which is being very successfully introduced by the Knowles' Steam Pump Works of New York and Boston, for draining coils, radiators, heaters, drying cylinders, steam jackets, etc., and feeding the water of condensation in its hottest condition direct to the steam boiler. It is perfectly reliable and automatic in its operation. It does away with the expense and annoyance of traps and tanks and returns the condensed steam to the boiler in a steady continuous flow as fast as it accumulates in the receiver above the pump. It is not affected by the variation of steam pressure and entirely prevents all snapping and "water hammer" in pipes so often caused by the use of traps having intermittent action. This Automatic Steam Pump and Receiver can be used for other purposes than a boiler-feed appliance; for regulating the brine circulation in refrigerating machinery, for the temporator apparatus in beer cooling, and for other circulating purposes.

The condensed steam entering the inlet nozzle at the top, gravitates to the bottom of the receiver. This water cannot accumulate in any quantity, as in rising it lifts the float and the steam pump takes it immediately away and forces it to the boiler. The pump is operated by the hollow float by means of the intermediate mechanism and balanced steam throttle. When the float rises with the water in the receiver, the pump is started and the speed is regulated according to the quantity of water flowing in—the more water the faster the pump moves. The pump slows down as the supply of water drops off, and when it ceases the pump stops entirely.

The hollow copper float cannot fill with water by "sweating" or actual leakage as it is drained from the bottom through the hollow arm and axis. The interior of the float is in communication with the outside atmosphere.

### Some Advantages of the South.

BY M. B. HILLYARD.

(Continued from last week.)

#### VARIETY OF PRODUCTS.

An advantage of the South, worthy a very thorough survey—which I shall not attempt, is the numberless variety of her products. She has been reduced to the verge of beggary and temporary ruin by her wretched unpolity in cultivating cotton so disproportionately. Suppose she could produce nothing else. The West is likely to suffer unspeakably before long, in those areas where she has only or can only raise wheat. In a considerable portion she cannot raise maize. In other areas the West cannot raise the cultivated grasses. But who shall enumerate what the South can produce? Let one think of the range from the climate of the Siberian crab-apple to the orange and the pineapple, for fruits, and that in much of the South fruits of some kind are to be had much of the year, (think of the strawberry and the peach for six months) and vegetables all the year. And the vegetables one cannot think of undertaking to enumerate.

Cotton, ramie and jute, the South may be almost said to have a monopoly of; and silk culture can have no better climate in the known world, according to the best judgment of experts.

In cereals the South can show a long list—Indian corn or maize, wheat, rye, barley, the oat, buckwheat,\* rice. Then there are ginger, indigo, the tea-plant, etc., etc., Her plants range from the sugar-cane of the tropics to the pine of rigorous climates. An

interesting paper might be made upon the medicinal plants and herbs of the South. A very interesting book has been written on them; and in parts of the South it is a vocation of people to gather them in the wilds for the uses of pharmacy.

Consider all these resources in a mild climate, fertile soil abundantly watered by rainfall and never-failing streams, pierced by navigable rivers, with inexhaustible coal and iron.

#### WATERCOURSES.

Another advantage the South possesses is in the distribution of her navigable rivers, and their communication with ocean highways. One must take a map and view the remarkable location of the South. With the exception of Tennessee, Kentucky and Arkansas, from Maryland clear round to away west and south in Texas there is no Southern State but may be said to have an ocean front. Into the Atlantic Ocean and Gulf of Mexico empty streams which have

greatly immigration from New York; as, if immigrants settle South, New Orleans or some other port is their proper place of debarkation; if West, they are readily distributed there by Southern railroads running from the West to their point of debarkation.

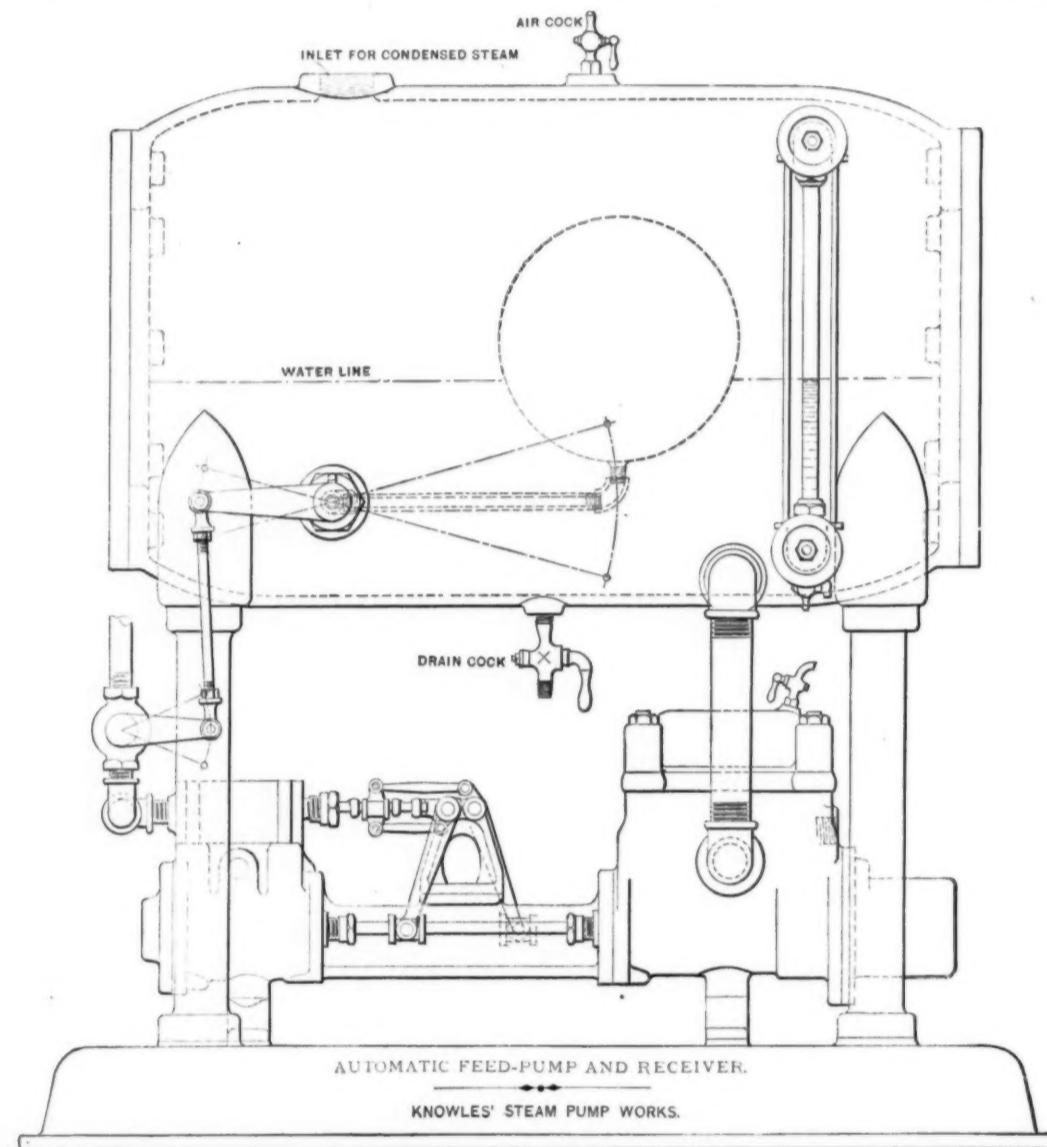
The import trade of the country, especially that of the West, is likely to be shared largely by the South.

But these rivers emptying into the ocean and the Gulf of Mexico penetrate far into the interior in the South. Almost every navigable river has its source in mountains, and is of unfailing flow. The Gulf of Mexico and the Atlantic Ocean furnish vast reservoirs for unfailing evaporation; and, by a stupendous harmony, the mountains compel the clouds to a deposition of their moisture, to flow down again in unceasing current to the source. Thus the Southern sun lifts the ocean, and the mountains take the welcome burthen; and this must ever be. However science may vacillate about the forests

then runs along much of the northern part of this State; then is deflected north, and courses clear through Tennessee and a part of Kentucky. The Cumberland, after watering much of Northern Tennessee and part of Kentucky, joins the Ohio.

The possibilities of this river system no one can predict. It is certain to play a great part in the future of these States. Their grain, flour, live stock, iron, coal, etc., will be immense interests in the future. Take the river system of Alabama and East Mississippi. See the future these rivers have before them!

The rivers of the South, in parts, penetrate, in many instances, very rich mineral tracts. In other parts of the South the same may be said of a number of their rivers. But, besides transportation for the future flour, cereals, live stock, hay, the products of the mine and manufactory of various kinds, the rivers and streams will play a most important part in furnishing cheap,



their sources far in the interior. On these streams, at greater or less distances from their mouths, are situated the leading Southern cities. Before the era of railroads, water dictated the location of cities; and water, of what one may term a navigable depth, can never be superseded by railroads. In the past, water has played a most important part as a factor in the development of Southern cities. Look at her leading cities—Baltimore, Richmond, Norfolk, Wilmington, Charleston, Savannah, Mobile, New Orleans, Galveston. But in the future water is to play a still greater role than ever in the past. One illustration—that of the deepening of the Mississippi river—shows what one great waterway may do. This came very near revolutionizing the grain transportation of this country. It saved (and will for all time save if the jetties act well) millions of dollars per annum to the Western farmers, by giving cheaper rates to Europe. It is probably destined to deflect

making more or less rainfall, the ocean must rise in vapor at the bidding of the sun; the clouds must obey the stern command of the haughty altitudes of the Appalachian chain.

I have said that Arkansas, Tennessee and Kentucky are the only Southern States that have not an ocean front; but, except for certain conditions and for purposes of transportation, they virtually have. The Mississippi river rolls past the whole eastern front of Arkansas, and rivers from away up in the interior of the State bear down her products. Past Western Tennessee the Mississippi flows the entire latitude of the State. Then Kentucky shares the benefit of the Mississippi river to Cairo, Ill. At Cairo the Ohio joins the Mississippi. From Cairo the Ohio is the western boundary of the State up to the State of Ohio. At Paducah, Ky., the Tennessee river comes in, after its rise in its sources in Western North Carolina and East Tennessee, and watering much of the latter. It sweeps well down into Alabama;

abundant, never-failing, never-freezing water powers for the future factories of the South.

The agriculturist and stock-raiser can appreciate the value of these rivers when he knows that they are supplied by hundreds of streams and thousands of rivulets forever dancing in sparkling joy through the meadows and over rocks, in dells, along from their unfailing sources in the mountains. The dairyman will cherish the spring-houses, and the stock-raiser and farmer will find perennial water for his flocks and herds; and a matter of no small consideration is it now, and hereafter will be a greater one, (in the great future of the South,) that cities and towns do and may have cheap and unfailing supplies of the clearest and purest water; and as many of these streams already contain abundance of fine fish, while many of them will be thickly populated hereafter by the wise providence of the Southern States, the people of the future South will find one of the best species of food for the support of man.

[TO BE CONTINUED.]

\*Two crops per season. The best buckwheat I have ever seen was raised on the gulf coast between Mobile, Ala., and New Orleans, La.

## Law Department.

Edited by B. HOWARD HAMAN, Attorney at Law, Baltimore, Md.

It is the province of this Department to reply to enquiries that may be made by our patrons respecting the legal aspects of any matter that may arise in their business. Any questions as to doubtful points of law will be answered without charge in this column. All questions submitted must be accompanied by the name and address of the sender, not however, for publication. Letters should be addressed, Editor Law Department, MANUFACTURERS' RECORD.

Editor Law Department,

Manufacturers' Record:

I have several questions which I would like to ask you which do not relate strictly to manufacturing interests, but I would be obliged for your reply to them. 1. Is there any redress to be had against commission merchants of your city who receive consignment of goods from out-of-town parties to sell on commission, and then after the goods are sold the shipper receives nothing but promises to pay? The commission merchant keeps on in business but does not deny that he owes the money. He, however, fails to pay anything. 2. Has it been decided by the courts of your State, or any other State to your knowledge, that laws against oleomargarine are unconstitutional? 3. Can you indict a man who gives you a check upon a bank where he has no funds? SHIPPER.

CHESTER, PA., March 20, 1886.

Reply—You can not do anything in the first matter which you ask about, except to sue the commission man. There is a law now pending before the legislature of Maryland which, if it passes, will afford an ample remedy to shippers in such cases as you suppose. This law compels the commission man either to pay up from the proceeds of a sale or make an assignment within 30 days. If he does neither he goes to jail. 2. Laws preventing the sale of oleomargarine entirely are unconstitutional. Laws which compel the oleomargarine people to sell their article for what it is are valid. 3. You can indict anybody, but you can't punish the man in the case you suppose unless he knows he has no funds in bank when he gives the check.

Editor Law Department,

Manufacturers' Record:

Does a material man's lien for machinery rank ahead of a mortgage which is given on the property before the machinery is put in, but after the building is begun? J. W. C.

PITTSBURGH, March 22, 1886.

Reply—No. In this respect the lien for machinery differs from liens for other classes of material, which rank ahead of any mortgage put upon the property after the building is begun.

Editor Law Department,

Manufacturers' Record:

I have a claim against a man who lived in one of the counties of your State and who has died leaving a farm in that county. He died in Baltimore, but left no personal property. Can I sue the heirs at once and take the land for my debt? L. H.

NEW YORK, March 24, 1886.

Reply—No. You must first take out letters of administration. If the family does not take out letters of administration, the largest creditor applying to the Orphans Court can get letters. He then must show that there is no personal property, and after this he can sell the land for his debt.

Editor Law Department,

Manufacturers' Record:

A gentleman has died in this city who held large blocks of stock in corporations doing business in Baltimore. Is it necessary to go through any formalities in Maryland in order to have the stock transferred to the persons who are entitled to it as representatives of the deceased party? G. H. N.

ATLANTA, GA., March 25, 1886.

Reply—Yes. You must advertise the transfer twice a week for four weeks in two daily newspapers published in this city.

### LEGAL JOTTINGS.

It has recently been decided in Maryland that where a saloon keeper is indicted for selling liquor on Sunday he can not defend himself by proving that he was away and did not know anything about the sale, which was made by his clerk, who had received ex-

press orders not to sell any liquors on Sunday.

An attachment for fraud in Maryland requires an affidavit and a bond. No bond is necessary in a foreign attachment.

In a suit on a promissory note against the endorser of the note it is not necessary for the holder to prove the signature of the maker. This is implied in proving the signature of the endorser.

### The Revolution of Industries.

The great difference between the industries of to-day and those of a century ago, says Prof. Arthur T. Hadley, in the course of an able paper in the Chicago Times, lies in the existence of large permanent investments. A great part of the business capital of the country is now embodied in railroads, machinery, buildings constructed for special purposes, or other forms of plant which would be of little value for any use except the one for which they were originally designed. Within sixty years the world has seen an investment of between \$30,000,000 and \$40,000,000 in steam power. All these things are of no value, except as a means of applying labor productively. On the other hand, labor can not be applied to advantage except by means of these instruments.

But the growth of permanent investment is not the only change which has taken place; Business investments are not merely large; they are also concentrated under the

Every year this is becoming harder and harder. The skillful machinist can not lay up money enough to control the vast machinery necessary to make him independent. If he invests his savings in the stock of the company for which he works he may share in the profits of his own labor, but he does not share in its management. John Smith as a stockholder is an entirely distinct person from John Smith as a machinist; and the two can deal with each other only through the intervention of the manager, who represents the one and controls the other.

### Farmers and Free Trade.

The Albany News and Advertiser adequately describes the stress of Southern farmers. It says the farmers became involved in debt after the war, and were thus dependent on merchants and warehousemen. "The reasons for this," says the News and Advertiser, "are manifest. Cotton was their only money crop. There was and there is no home market for other products. The all-cotton plan became a system, and cotton in a few years fell so in price as to be unremunerative."

This, assuredly, is a part of the problem which the Southern farmer has to face; and, with Statesman Morrison and other Western Statesmen tinkering at the tariff year after year, they have not much to hope for. It is true that protection has not as yet given the

for them in this business has been amply shown by results.

The farmers of the South are poor and cramped, but they are rich by comparison with the farming classes in England. Before we try any new experiments let us wait a little. Let us see what the outcome will be. We know very well that free trade will put an end to the growth of industries, and we know, moreover, that without the growth of industries the market of the farmer will be as barren as it has always been.—Atlanta Constitution.

### Business in Roanoke.

THE remarkable industrial and commercial activity reported in our Birmingham correspondence prevails to a greater or less degree all over the South.

The following from the Roanoke (Va.) Leader shows the condition of things in that enterprising town:

While business in this city during the last eighteen months never became so depressed as it apparently did elsewhere, the improvement within the last two months has been most marked, and there is every evidence of its continuance and steady growth.

One of the first indications of improvement was the growing demand for residences and business stands, and while a number of these were tenantless about the first of January, there are now few unoccupied business stands in the city, and there is pressing demand for residences, nearly all of which are filled, and many new buildings just erected are occupied. Trade is quite brisk and money circulating freely; the deposits in the banks are larger than for some months past; there is an increased inquiry and demand for building lots, and many new buildings being begun and contracted for. With the exception of one wood-working factory that has been closed for a good while because of business embarrassments, every industry in the city is in full blast and working a full force. The machine works have increased their force to over 700 and are still adding to it; their pay roll has increased from \$16,000 in January to \$24,000 in February, and will exceed \$30,000 for March.

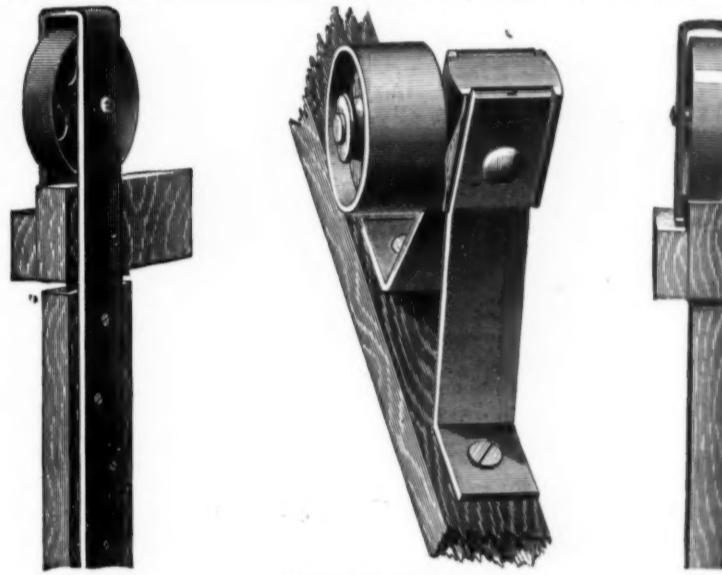
The most depressing influence that is felt in this section is the proposed Morrison tariff bill, which places iron ore and coal on the free list. These are the most important and leading industries of Southwest Virginia, and without which it would relapse in the dull and unenterprising condition of the period when these interest were dormant and undeveloped. We are much pleased to see that our people are awakening to the danger which threatens them in this proposed bill, and that protests against it are pouring in upon the committee, of which Mr. Morrison is chairman. While they will doubtless have little or no effect upon that distinguished "statesman," they cannot fail to exert a beneficial and saving influence upon the remainder of the committee and upon Congress. We should not relax our efforts in this direction, because the matter is most vital and one we cannot afford to neglect.

### The Cronk Hanger.

The barn door hanger, manufactured by the Cronk Hanger Co., Elmira, N. Y., possesses some excellent features. It is made of wrought iron and never breaks. The straps on the back run half an inch below the bottom of the wheel, as shown in the cut, and prevent the door from jumping the track or from falling. The track is made ready to nail up, and anybody who can use a hammer can hang a door. The track is iron clad, thus reducing the friction to the minimum.

The Commercial Index, of this city, has entered upon its second volume with indications that its first year has been a prosperous one. The Commercial Index is a valuable addition to the counting room.

THE Gillette Twine Co., Mt. Verd, Tenn., want to learn something of small motors for running sewing machines, &c.



THE CRONK HANGER.

### Stuart's Window Screen Frames.

This is a new device manufactured by E. C. Stearns & Co., of Syracuse, N. Y. In Fig. 1 is shown view of the frames, while in Fig. 2 is given a full size sectional view of parts. These frames can be easily fitted to any ordinary window by simply sliding the sticks along on each other to the required size, fastening by nail or screw and sawing off projecting ends. The frame thus made is much cheaper and in appearance far superior to those made by mechanics generally; is capable of adjustment from sizes given down to nothing, and insures close fitting and accurate joints. It does not require a mechanic to adjust them. Any one at all accustomed to the use of tools can buy the sticks and fit them to his own window. They

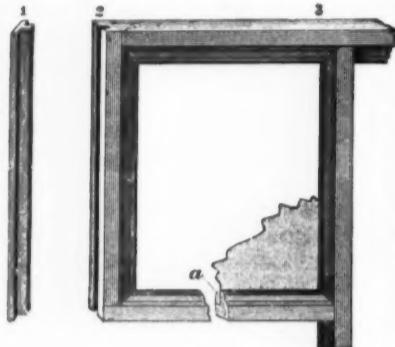


FIG. 1.

are very simple and a great improvement on those in ordinary use.

A slip or slide for side of window and bead to attach screen cloth is furnished with each set. The corresponding numbers in the two cuts indicate corresponding parts. 1. Strip on which frame slides. 2. Side stick of frame. 3. Cross stick of frame. *a*. shows bead which tacks on over wire cloth.

For particulars and prices, address the manufacturers.

CLAREMONT, VA., March 27, 1886.  
*Editor Manufacturers' Record:*

We have formed a pottery company here, and for the present simply subscribed enough to dig for and test the clay. We find plenty of it, and some is now being shipped to kilns to test its quality, which we feel assured is first-class. The pottery will be carried on by a Mr. Thompson, backed by several of our citizens. I have this day given four town lots to Ward & Steinberger, who bind themselves to erect a large sash, door and blind factory; also a lot to Charles Hammond, who binds himself to start a husk and mattress factory.

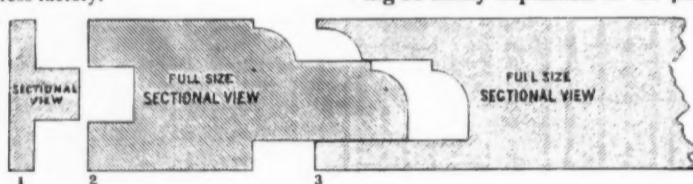


FIG. 2.

Two lots were given a few days ago for a Methodist Episcopal Church and parsonage which will be built. The new Episcopal Church, made a present to us by Mrs. C. C. Gittings, of your city, a beautiful structure, completely finished and furnished, was consecrated last Monday by Bishop Randolph. It is called "Ritchie Memorial," in remembrance of the good lady's parent. The Methodist Episcopal Church South have also a church nearly completed. Three churches have we, and the town was all in solid woods less than three years ago. Town lots are selling and new houses going up all the time. The village, incorporated this winter, has already 53 houses, 7 stores, 3 hotels, 1 newspaper and a car wheel factory in course of erection. We have sold, on an average, a farm a day for the last forty days. At a meeting last night, fourteen signed a petition

the United States seeking profitable investment in the South, the MANUFACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more.

JOSIAH ASBURY, Charlotte, N. C., has put a No. 2½ Goodell & Waters planing machine in his machine shop.

for a charter to start a post of the Grand Army of the Republic. If we secure a charter we will start with fourteen charter members, and have at least twenty to ride the goat immediately after.

J. F. MANCHA.

### A Great Railroad.

In his lecture before the Harvard students on railroad management Charles Francis Adams gave the following interesting statistics concerning the Union Pacific Railroad: To show the magnitude of such a system, the lecturer said that the Union Pacific, which he represented, ran through six States and four territories. It covered 5,000 miles with its tracks, crossing fertile plains, striking into the steep and Rocky Mountains, running through narrow defiles 12,000 feet above the level of the sea, then turning to the northward nearly to the limits of Canada, and finally crossing through the regions so well described in Washington Irving's "Astoria." Forty years ago the capital of the road was \$1,000,000. Now \$270,000,000 are represented by the securities of the thirty or forty corporations included in the Union Pacific. Its income is \$25,000,000 a year; at times \$100,000 a day. It carries 2,500,000 passengers yearly; it has relations with eighty or a hundred corporations; the pay roll is \$800,000 monthly; 555 locomotives and 12,000 cars form part of its rolling stock; 25,000 tons of steel rails are used yearly merely for the wear and tear. Great as is this corporation there are four or five greater in this country, notably the Pennsylvania Railroad. If these are the days of small things, if this is the growth of forty years, what will be the growth of sixty or eighty years? And it must be remembered that these combinations of labor and capital have but begun to develop their results.

THE Southern Bivouac for April is an unusually interesting number. This representative Southern magazine is meeting with gratifying success. Starting a year ago under its new management with a circulation of 1,500, it has already reached an average circulation of about 15,000, which is growing rapidly. It is a well-conducted periodical, and should receive a liberal support from the South.

CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. Reaching so many capitalists in all parts of

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AXLES.		
Half Patent, solid collar.....	dis 60 \$	
Common.....	rate 4	
Concord.....	3½	
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Plain, set.....	100	
Bolts, Eagle.....	70	
CLIPS.		
Superior Axle.....	dis 60 \$	
Norway.....	" 40 \$	
Saddle.....	doz set \$1 50	
FINISHED CLIP KING BOLTS.		
Nos. 1 & 2	3	
Flanged, 3 doz.....	\$3 00	3 50
DASHES.		
Leather.....	dis 10 \$	
ENAMELED CLOTHS.		
Muslin, 3 yard, 5¢	18	
Drill, " 50 in.....	24	
Duck, " 50 in.....	29	
Tan Back, " 54.....	32	
FELLOW PLATES.		
Per lb.....	8	
FIFTH WHEELS.		
Derby, 3½, 3 doz.....	\$7 75	
" 3½ in.....	8 75	
Cincinnati, 3½, 3 doz.....	6 00	
" 3½ "	7 00	
RUBBER BUCK AND DRILL—35 % off list.		
SPRINGS.		
Seat, 1½ x 2x6, 3 pair.....	90	
Buggy, 1½ in. and larger.....	8	
" 1½ to 1¾ in.....	9	
Oil-tempered springs 2c. advance from above.		
MALLEABLE CASTINGS.		
Rate.....	8	
Core.....	12	
STEP PADS.		
Per doz, pair.....	\$2 25 @ 7 50	
Spokes, No. 1, 1 to 1½.....	\$2 25 @ 7 50	
" X, 1 to 1½.....	2 50 "	
" XX, 1 to 1½.....	3 50 "	
Wheels, Sarven Patent.....	\$6 50 to 14 00	
SHAFT AND POLE COUPLINGS.		
	50%	
H. B. LEATHER.		
No. 1 Top, 3 ft.....	28	
" 2 "	23	
" 1 Dash, "	12	
" 2 "	10 @ 10 ½	
Fancy Morocco, 3 ft.....	96	
Bow, 3 ft.....	30 @ 23	
Collar, "	24	
Harness, 3 lb.....	40	
HICKORY FELLOWS.		
X.....	1 1½ 1½ 1½ 1½ 1½	
" 1 25 1 25 1 35 1 60 2 00 3 set.		
XX.....	3 00 3 25 3 50 3 75 4 25 "	
HICKORY SPOKES.		
No. 1.....	1 1½ 1½ 1½ 1½ 1½	
" 2 25 2 25 2 25 2 50 2 75 3 set.		
XX.....	3 50 3 50 3 50 3 50 3 75 "	
HUBS.		
No. 1.....	5x7 6x8 7x9 8x10	
" 90 100 1 35 1 50 2 50 3 set.		
XX.....	5 in. and smaller. 5½ 2 25 2 50 3 set.	

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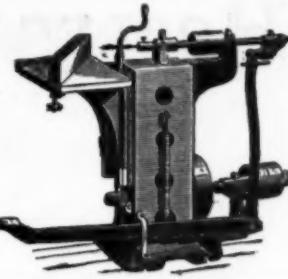
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Longwood is a town of 40 acres and about 200 inhabitants, in South Florida, 200 miles south from Jacksonville. It lies on the spine of the peninsula. The South Florida Railroad passes through the town on the line to Kissimmee, the present Southern terminus. There is railroad connection from Longwood, East and West, to respectively, the Atlantic coast via Sanford, and to the Gulf coast at Tampa. The neighboring country is comparatively thickly settled, the County of Orange having increased its population from 6,000 in 1880 to 16,000 in 1885. Its elevation and character of soil, draining off both East and West, secure unusual healthfulness, attested by experience, and by the appearance of the people.

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PLANING, DOOR, SASH AND BLINDS, ETC., ETC.

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(5-12 interest,) doing a rapidly increasing business, paid \$8,000 net profit for the year 1885.

### Railway,

10 miles long, from Longwood to St. John's river.

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DWELLING AND ORANGE GROVE,

1½ miles from Longwood; 20 acres cleared and wire-fenced; 5 acres, surrounding the house, are well cultivated, with every stump removed; 200 of the orange trees are seedlings in full bearing. Now rented to a Northern family.

### 11 Acres.

RESIDENCE, STABLE, LAWN, GARDEN AND FRUIT PLANTATION,

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(Each of the pieces described has been critically examined and reported on by an Expert Agent of this office, at the expense of the undersigned, with intent to secure full and truthful representation, and to impartially serve seller and buyer. The original report over signature of the examiner, and with our guarantee, can be consulted on application, and the address of the examiner will be furnished to any person desiring assurance of his competency, or to question him directly.)

A searching scrutiny is invited of the statements herein submitted with care and the most impartial intention. Visits from responsible applicants, with view to buy on personal certification of the offering, will be liberally facilitated.

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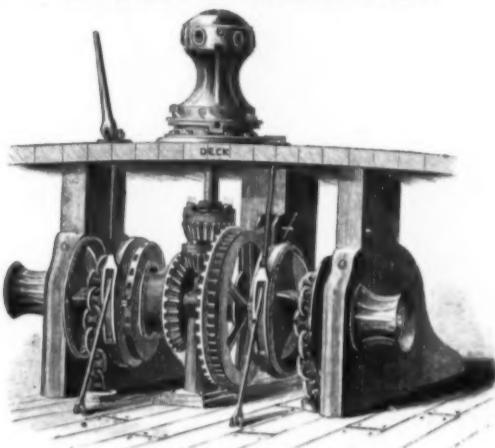
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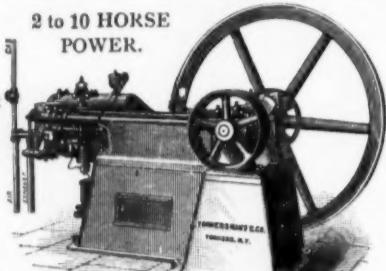


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No Slide Valve to Get Out of Order. Does Not Hazard Insurance. Is Noiseless in Running. Requires no Matches to Ignite the Gas. Can be Run with Any Kind of Gas. It is the only Engine that can be run equally as well with Gasoline Gas or Carburetted Air, as with regular fixed gas. Speed can be adjusted while running from 80 to 200 revolutions per minute.

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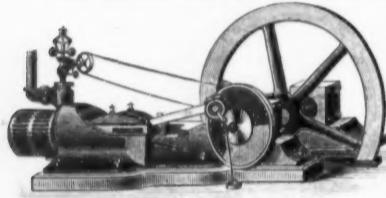
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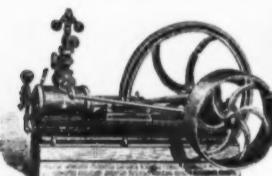
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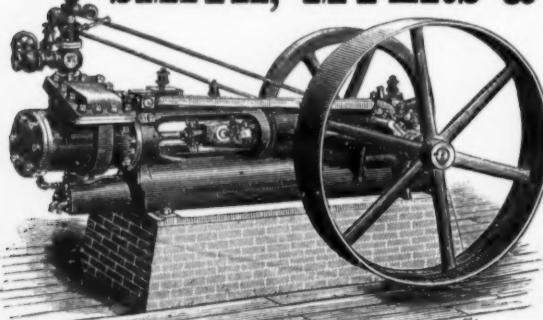
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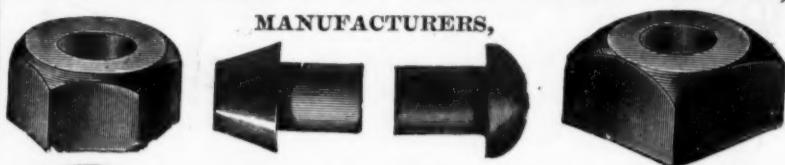
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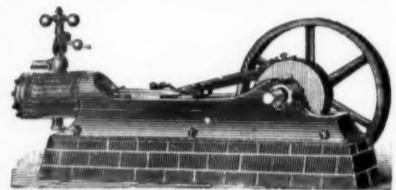
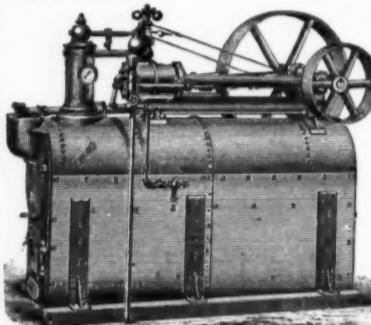
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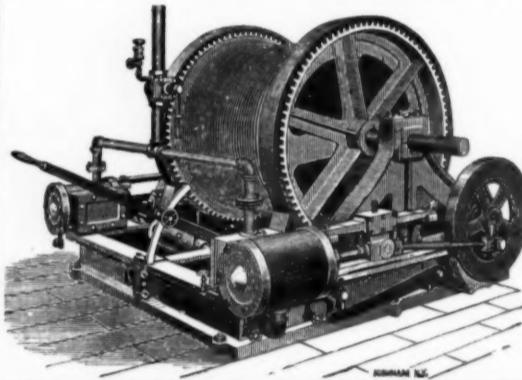


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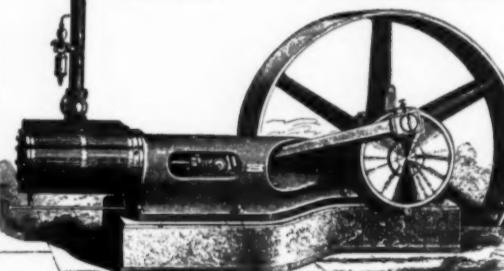
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Particular attention paid to Large Circular Work. We warrant our Circular Saws to stand more strain, without buckling or cracking, than any other make. We make all kinds of Tough-Tempered Circular, Mill, Cross-Cut, Band and Drag Saws, Planer Knives, Enslilage, Feed, Tobacco, Meat Choppers, and other Knives made to pattern, and Moulding Bits warranted equal to the Best. N. B.—We make no charge for hammering any Large Circular Saw that we can't make "go." GIVE US A TRIAL, and for toughness of temper, durability and quality of material, compare our work with the best you have ever used.

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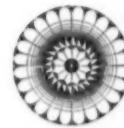
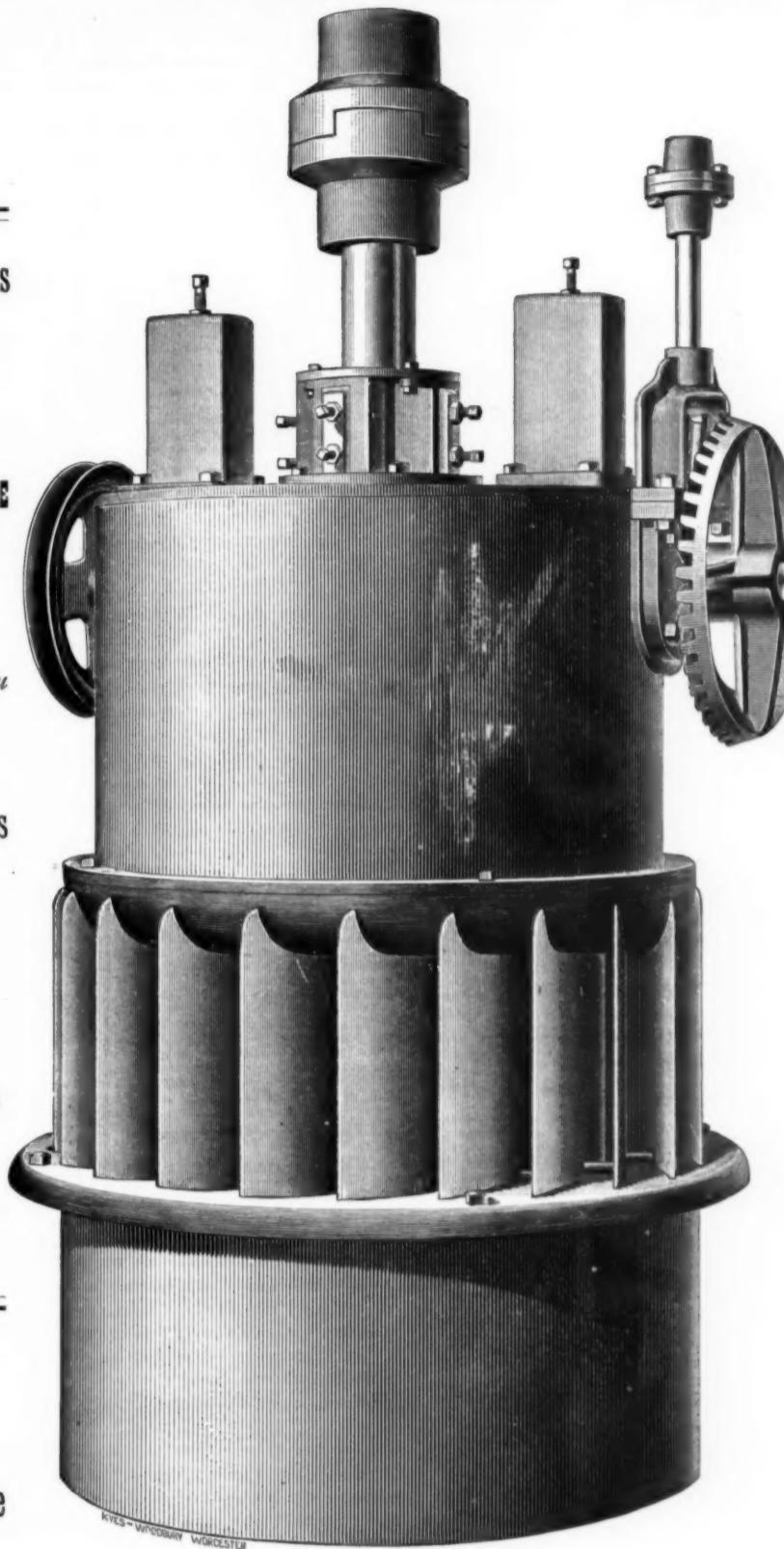
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the Value of Your  
Whole Plant.

GET THE BEST AT FIRST AND AVOID THE  
EXPENSE AND DELAY OF CHANGING  
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A Good Wheel Will Serve You  
Well for Twenty Years.

THE BEST IS THE CHEAPEST. IT DOES  
MORE WORK, LASTS LONGER, AND  
COSTS NO MORE FOR GEARS  
AND SETTING THAN A  
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The Hercules Gives the Most Power for its Size  
and the Highest Average Percentage  
from Full to One-Half Gate of  
any Wheel Ever Made.



When it is considered that the HOLYOKE WATER POWER COMPANY test every wheel that is put in in Holyoke, and use the wheels as a guage or meter for measuring the water to the manufacturers and charge them for the actual quantity of water used, it will be seen that the HERCULES stands first in the estimation of Holyoke manufacturers as an economical wheel in the use of water for the amount of power produced. The HERCULES, we believe, is the only wheel of which all the sizes, both right and left hand, have been tested, some of them many times, and all brought to the standard of excellence which has been set by the makers and demanded by their customers.

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## THE HERCULES WATER WHEELS

THE HEAD OF WATER ON THE WHEELS AND THE POWER FURNISHED BY THE HOLYOKE WATER POWER CO.:

	Diam.	Head	Date
	in inches.	on Wheels.	of Power.
Albion Paper Company.....	39	25	265 1878
Albion Paper Company.....	24	25	115 1883
Albion Paper Company.....	45	27	445 1880
Albion Paper Company.....	30	27	200 1883
Chemical Paper Company.....	4-30	23	620 1880
Chemical Paper Company.....	5-18	23	275 1880
Chemical Paper Company.....	33	23	185 1880
Chemical Paper Company.....	42	23	305 1880
Chemical Paper Company.....	2-45	23	800 1883
Connecticut River Pulp Company....	36	18	155 1881
Crocker Paper Company.....	39	25	300 1883
Farr Alpaca Company.....	48	19	300 1878
Franklin Paper Company.....	39-	20	215 1883
Geo. R. Dickinson Paper Company...	2-45	19	520 1883

	Diam.	Head	Date
	in inches.	on Wheels.	of Power.
Geo. R. Dickinson Paper Company...	36	19	170 1883
Holyoke Water Power Company.....	30	19	115 1883
Holyoke Warp Company.....	48	11	130 1873
Massachusetts Screw Company.....	27	19	90 1883
Merrick Thread Company.....	48	12	150 1880
Newton Paper Co. Company.....	48	21	350 1880
Nonotuck Paper Company.....	48	29	570 1881
Nonotuck Paper Company.....	27	29	175 1881
Riverside Paper Company.....	48	20	325 1880
Syms & Dudley Paper Company.....	45	29	495 1881
Syms & Dudley Paper Company.....	24	29	140 1881
Springfield Blanket Company.....	36	18	155 1877
The Beebe & Holbrook Paper Co. ....	24	19	75 1884

	Diam.	Head	Date
	in inches.	on Wheels.	of Power.
The Massasoit Paper Company.....	39	19	197 1883
Union Paper Company.....	45	20	285 1882
Union Paper Company.....	30	20	195 1883
Valley Paper Company.....	42	27	300 1882
Wauregan Paper Company.....	42	18	210 1882
Wauregan Paper Company.....	33	18	130 1882
Whiting Paper Company.....	27	18	85 1882
Whiting Paper Company.....	16	15	30 1880
Winona Paper Company.....	48	26	540 1880
Winona Paper Company.....	24	26	135 1880

Increase since..... 9,797  
Total ..... 10,576

Send for  
Catalogue  
No. 3.

HOLYOKE MACHINE COMPANY, Worcester, Mass.



## TRADE NOTES.

## The Value of Iron Roofing.

Iron roofing is no longer a new thing as many suppose, but has been used in many places in Europe and the United States for more than fifty years, and would be almost universally used if it could have been afforded heretofore at as low a cost as now, and had as good materials and a perfect mode of construction been used. Experience and ingenuity have prevailed over ignorance and doubt, and a perfect iron roofing is now to be had. Where well introduced it is considered the most economical, durable and perfect protection from the elements in use. It saves insurance, lightning rods and repairs. Nine-tenths of the fires occur on the roofs. People are now guarding against fire more than ever before. Insurance is about one-third less in case of an iron roof.

The fact that there is not a case known of a building with iron roofing being injured by lightning, is sufficient evidence that it is a non-conductor of this dangerous element. The cost of iron roofing is less than shingle roofs protected by lightning rods.

The most important feature of iron roofing, and that which should commend itself to all, is its durability. Everybody knows that so long as iron does not rust it will last, and as long as it is kept painted it will not rust. There is never any wear on the under side to wear the paint off, and if the upper side is painted every four or five years we do not see anything to prevent its lasting a hundred years. The cost of painting is but fifteen cents per square, including paint and labor. The saving in insurance will pay the difference in a very few years, between this and the cheapest roof that can be made. It is suitable for all kinds of roof, and for temporary roofs it excels all others, for it can be taken off, or any part, and used again without loss.

N. A. Haldeman & Co., 1221 Main street, Wheeling, W. Va., and 1007 Spruce street, Philadelphia, manufacture roofing made of extra charcoal iron and sheet steel. No rivets, screws, tongues, eyelets, counter-sinking, break the surface in applying this roof, and tools are loaned to reliable parties, and printed instructions sent with all orders. For further information and prices write for their catalogue A. Estimates will be promptly furnished.

F. H. CLEMENT, manufacturer of high grade wood-working machinery, reports the following recent sales, which would indicate that business with him is good: Seth Thomas Clock Co., Thomaston, Ct., 3 machines; Sam'l York, Rio Janeiro, 2 machines; W. Williams & Co., Melbourne, Australia; Sloat & Greenleaf, Watertown, N. Y.; Osborn-Tuening Co., Starrucca, Pa.; Flint Furniture Co., Faribault, Minn.; Fenton & Drum, Holyoke, Mass., 3 machines; Standard Wood Turning Co., Jersey City; W. F. Creelman & Co., Boston, Mass.; Wm. Beckert, Alleghany, Pa.

We call attention to the card of The E. H. Cook Co., Limited, of Rochester, N. Y., which appears in this issue of the MANUFACTURERS' RECORD. This well-known company have a national reputation for good, honest and substantial work, which they always do in a scientific manner. They are contractors and engineers for steam and hot-water heating for hotels, public buildings, State institutions or private dwellings, and will furnish plans and specifications for such jobs in any part of the South upon application. The E. H. Cook Co., Limited, were awarded the heating contracts for fitting out the Chicago Board of Trade, \$50,000; Soldiers Home Buildings, Bath, N. Y., \$30,000; New Powers Hotel, Rochester, N. Y., \$33,000; The Stillman Hotel, of Cleveland, \$34,000, and

many other large buildings that reflect credit on their engineering.

MESSRS. GEORGE DRAPER & SONS, Hopedale, Mass., have recently purchased of Mr. Hardaker, the inventor, the patents and business of making and selling the Hardaker Temple for this country.

## Important.

The improvements of the Grand Union Hotel are simply elegant, and the hotel is always kept in perfect order. It is so convenient to all the depots that guests arriving by the Grand Central Depot have their baggage transferred to and from the Grand Union Hotel in five minutes, free of charge. Guests arriving by steamer or railroad, South, North, East or West, are conveyed to the Grand Union Hotel by the elevated railroad for five to fifteen cents, thereby saving \$3 carriage hire. During the past year 110,000 people occupied the 613 rooms of the Grand Union Hotel at \$1 and upwards per day, including of course its elegant suites of rooms for families on the European plan. The dining-rooms, restaurant, cafe, lunch and wine-rooms were supplied with the best at moderate prices. Families lived better at the Grand Union Hotel, and for less money, than at any other first-class hotel in New York.

THE American House, Boston, holds its popularity as well as any hotel in the country, on account of its central location, excellent management and liberal charges for first-class accommodations.

FOR THE BEST  
MACHINERY  
—FOR—  
SHINCLES,  
HEADING and STAVES,  
And Improved  
GAGE LATHES  
For  
Turning Handles, Etc.  
ADDRESS:  
TREVOR & CO.  
LOCKPORT,  
N. Y.

Many Steam Fitters and Machinists are of the opinion that the

## POWELL PATENT

## REGRINDING "STAR"

## And Crescent Globe Valves

are the very best in use. The Star Valves are also made extra heavy for Steam Boat use. Every Valve warranted for one year if handled and used with ordinary care.

POWELL'S PATENT  
SIGHT-FED  
LUBRICATORS  
and Glass Engine Cups  
insure a great saving in oil. Specifications should call for  
—THE—  
Powell Star Valves.

WM. POWELL & CO., Manufacturers,  
50, 52 and 54 Plum Street, Cincinnati, Ohio.  
Sold by THOS. C. BASSHOR & CO.,  
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MANUFACTURERS OF

Marble Monuments  
Tombs, Altars, Counters,  
Furniture Slabs, Mantels, Tiles.  
Estimates and Drawings Free.

## Porter Mfg. Co., Limited.

SYRACUSE, N. Y., U. S. A.

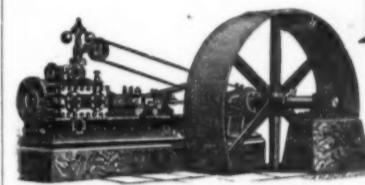
MANUFACTURE

## —STATIONARY AND PORTABLE—

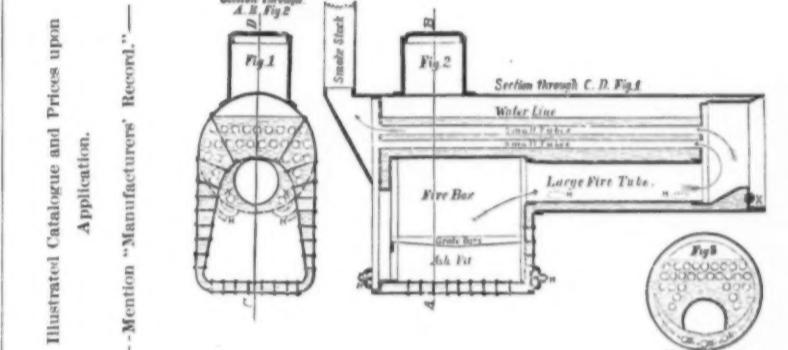
ENGINES  
(ALL SIZES.)

For Every Duty.  
Centre Crank Stationery.  
Trunk Bed. Double.  
Variable Cut-off. Square Bed.

## BOILERS



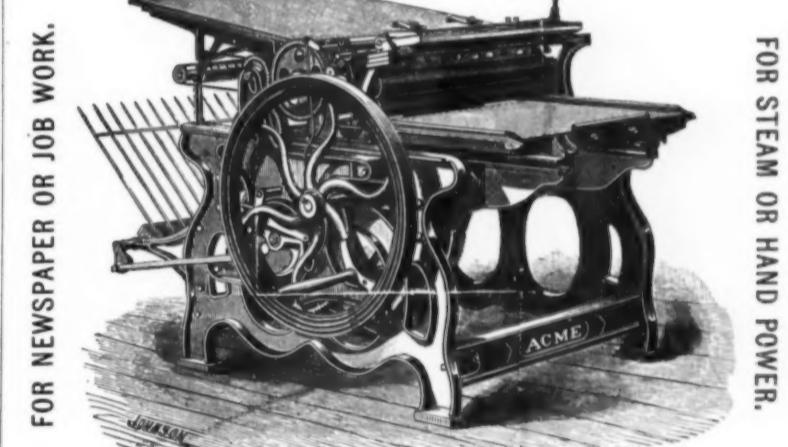
That Cannot Explode,  
and have many other  
Valuable Features.



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WM. R. EMERSON, Baltimore, Md. S. S. NASH & CO., Tarboro, N. C. VALK & MURDOCH Charleston, S. C. A. G. SMITH, Live Oak, Fla. DAWSON & EVANS, La Grange, Ga. LYONS THOMAS HARDWARE CO., Paris, Texas. R. L. COBB & CO., Little Rock, Ark. ATKINSON HARDWARE CO., Fort Smith, Ark. M. FALER & CO., Hazlehurst, Miss. KENTUCKY MACHINERY CO., Louisville, Ky.

## The ACME Improved Two-Revolution Press.



FOR NEWSPAPER OR JOB WORK.

These Presses combine, in a thoroughly perfected machine, many features whose value will be readily appreciated, including several which have never been practically developed by any Cylinder Press. Among these features are: Compact and firm in all its adjustments; the most perfect two roller ink distribution; speed combined with perfect registration; slow movement of the bed during the impression, and quick return; suspending the impression; suspends the grippers, guides and ink; ink can be distributed without inking form; unlimited rolling of the form; composition rollers interchangeable; feeder can suspend action of the ink fountain; impression adjustable while the Press is in operation; whole form accessible for correction on the Press; quiet operation without jar; great saving in wear of type; convenient height of bed.

The present hand-power Acme Presses fully equal, in capacity for fine work, the first-class two-roller Presses of other kinds, and they run much easier, and are also capable of higher speed by steam than any other Cylinder Press manufactured for country offices or for hand operation. The convenience of changing from newspaper to poster and job work is unequalled.

PRICES. — — \$900 to \$2,500.

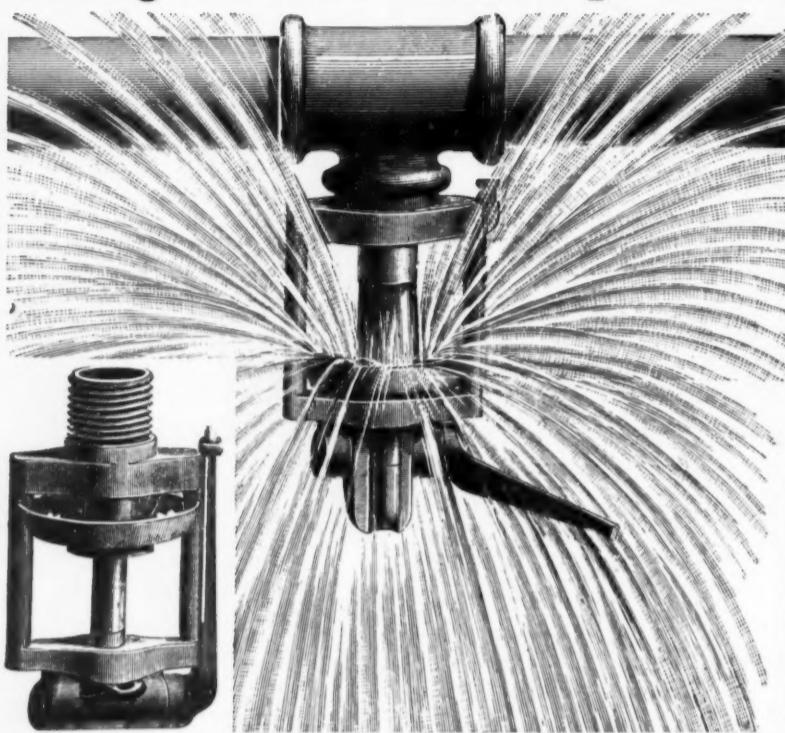
Circulars, with sizes and prices, will be sent on application.

C. C. CHILD, MANUFACTURER,  
64 Federal Street, Boston, Mass.

FOR STEAM OR HAND POWER.

# WALWORTH

## Strong Sensitive Link Sprinkler.



THE WALWORTH STRONG SENSITIVE LINK SPRINKLER, for the extinguishment of fires, having for its most salient points

### STRENGTH, SIMPLICITY AND RELIABILITY,

has forced its way to the front solely because it has been proved to be the best Sprinkler made. No Sprinkler ever introduced has shown such good results. In no instance has it failed to act when needed, notwithstanding the fact that it has been severely tested in many instances.

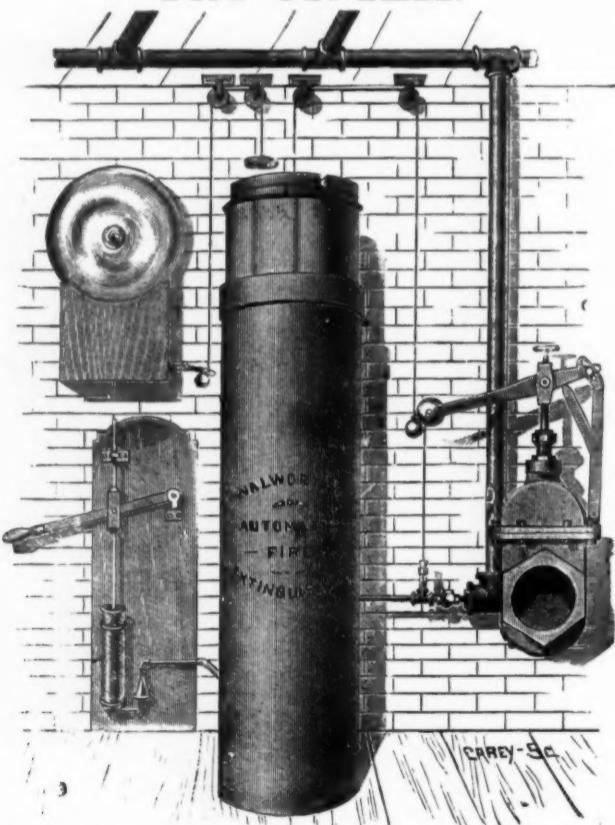
We give below the account of a remarkable fire:

#### MESSRS. WALWORTH MANUFACTURING CO.:

GENTLEMEN—On Sunday evening fire was discovered in our engine room, and in five minutes had worked its way through a belt box to the fourth floor. For a few minutes it looked as if the place must go, but the automatic heads on each floor near the fire went off and quickly extinguished it without assistance from hose or anything else. Had there been sprinklers in the engine room, fire could not have got beyond it, and we will be pleased to have you put them in this room at your earliest convenience. After the fire was out we shut the water off at tanks, put on new rings at the eleven heads which had gone off, and with water on started in full next morning as though nothing unusual had taken place.

## WALWORTH Automatic FIRE Extinguisher.

### DRY SYSTEM.



By this system the pipes are filled with compressed air under a pressure of one pound to the square inch. Attached to the pipes is an Airometer, the inner tank having a weight upon it of 100 pounds. This tank and weight is raised by the compressed air, and as soon as a Sprinkler is opened the pressure, being released, allows the tank and weight to fall, thus opening a valve and either starting the pump or releasing the water from tank or street mains. It is so arranged that an alarm will sound just before the valve is to be opened, notifying that there is a fire, or that more air must be pumped. The entire supply of air can be produced by a few strokes of the air pump. Manufactured by the

Walworth Manufacturing Co.

No. 16 Oliver Street, BOSTON.

## PAINTS, OILS, &c.

### PAINTS.

Black Lamp, coach painters.....	1 lb 20c
Black Lamp, ordinary.....	1 lb 10c
Black Ivory Drop, fair.....	1 lb 15c
Black Ivory Drop, best.....	20c
Black Paint, in oil.....	kegs, 6c; assorted cans, 9c
Blue Prussian, fair to best.....	30@40c
Blue Prussian, fair to best, in oil.....	35@40c
Blue Chinese, dry.....	70c
Blue Ultramarine.....	10c
Brown, Spanish.....	5@15c
Brown, Van Dycke.....	8@15c
Green, chrome, in oil.....	9@12@15c
Green, Paris.....	good, 20c; best, 25c
Green, Paris, in oil.....	good, 20c; best, 25c
Iron Paint, bright red.....	1 lb 25c
Iron Paint, brown.....	1 lb 15c
Iron Paint, purple.....	1 lb 30c
Iron Paint, ground in oil, bright red.....	1 lb 50c
Iron Paint, ground in oil, red.....	1 lb 50c
Iron Paint, ground in oil, brown.....	1 lb 45c
Iron Paint, ground in oil, purple.....	1 lb 60c
Linseed Oil, raw.....	44c
Single Boiled.....	46c
Double.....	48c
Mineral Paints.....	2@4c
Orange Mineral.....	0c
Red Lead, American.....	61/4@7c
Red Venetian, (English) dry.....	\$1.50 to \$1.75
Red Venetian, in oil.....	assorted cans, 9c; kegs, 6c
Red Indian, dry.....	8@12c
Rose Pink.....	10@13c
Sienna, American, raw.....	4c
Sienna, Burnt.....	4c
Sienna, burnt, in oil.....	8@15c
Sienna, raw.....	8@15c
Umber, burnt.....	4@8c
Umber, burnt, in oil.....	8@14c
Umber, raw.....	31/2@7c
Umber, raw, in oil.....	8@14c
Vermilion, Chinese.....	90c
Vermilion, English.....	60@6c
Vermilion, American.....	1@18c
White Lead, American, pure dry.....	7 c
White Lead, American, pure in oil.....	61/4@7 c
White, Paris, English, prime.....	in brls, 11/2@8c
Yellow Ochre, French.....	11/2 c
Yellow Ochre, French, in oil, ass't'd cans, 9c; kegs, 6c	11/2@15c
Yellow Ochre, American.....	in bbls, 11/2@15c
Yellow Chrome.....	8@12c
Yellow Chrome, in oil.....	9@12@15c
Zinc White, American, No. 1, dry.....	6@7c
Zinc White, American, No. 1, in oil.....	65@9c
Zinc White, French dry.....	9@12c
Zinc White, French in oil.....	10@14c

### OILS.

Bleached W. Sperm oil.....	100@10c
" "	95@10c
B. W. Elephant oil.....	75@10c
" Whale oil.....	50@ 60
Prime Lard oil.....	53@ 55
Extra No. 1 Lard oil.....	50@ 55
Lubricating oils.....	12@ 25
Miners' oil.....	3@ 45
W. Pressed Fish oil.....	32@ 35
Neatsfoot oil.....	50@ 75
Steam-refined Cylinder oil.....	30@ 40
Best Filtered "	50@ 55
Signal oil.....	50@ 55
Paraffine.....	12@ 20

### SUNDRIES.

Benzine.....	1 gal, 86@10c
Turpentine.....	1 gal, 30c
Chalk.....	1c
Chalk, block.....	1c
Dryer patent Am'n.....	ass't'd cans, 8c; keg, 7c
Frostings.....	40c
Glue, white.....	18@36c
Glue, sheet.....	14@30c
Glue, ordinary.....	8@12c
Glaziers' Points, zinc.....	8c
Gum, Copal.....	36c
Gum, Damar.....	25c

## METALS.

### TIN PLATES.

#### BLOCK TIN.

"Lamb and Flag," and "Straits."	
Large Pigs.....	23
Small Pigs.....	24
Bars.....	26

#### TINNERS' SOLDER.

No. 1 Refined.....	13
Market Half-and-Half.....	14
Strictly Half-and-Half.....	14@15

#### ROOFING PLATS.

IC, 14x20, Cloice Charcoal Terne.....	5 00
IX, 14x20, "	5 00
IC, 20x28, "	10 00
IX, 20x28, "	13 00
IC, 20x28, Extra fine quality, charcoal roofing, genuine "old style" redipped.	14 00
IX, 20x28,	18 00

#### COKE PLATES.

C, 10x14, bright, "B. V." grade.....	5 00
C, 14x20, "	6 50
X, 14x20, Gutters.....	8 50

#### SHEET ZINC.

In casks of 600 lbs, 1/2 lb.	5 1/2
In smaller packages, 1/2 lb.	6 1/2

#### TIN PLATES.

IC, 10x14, Charcoal.....	5 50
IX, 10x14, "	5 50
IC, 12x18, "	5 75
IX, 12x18, "	5 75
IC, 14x20, "	5 50
IX, 14x20, "	5 50
IX, 14x20, "	5 50
IXXX, 14x20, "	11 50
IX, 20x28, "	15 00
DC, 100, Plate "	5 50
DX, 100, "	7 50
DX, 100, "	9 50
DX, 100, "	11 50

#### HABBITT METAL.

A 1.....	15
No. 1 Ordinary.....	10
Antimony.....	18
Excelsior Habbit Metal, No. 2.....	10
" "	9

#### LEAD.

Pig.....	5 1/2
Bar, (15 oz. bars).....	6 5/6
Sheet.....	8
Pipe, full coils.....	7

### COPPER.

Tinned Sheathing, 14x8, 14, 16, 18 oz.....	30
" Planish'd, 14x8, 14, 16 oz.....	32
Brazier's Copper, 13 to 16 lb.....	20
" 10 to 12 lb.....	22
" 8 lb.....	24
" 6 lb.....	32
Bolt.....	20
Tinning extra.....	40
Copper Pit Bottoms.....	22

### BRASS.

#### ROLL AND SHEET BRASS.

Brown & Sharpe's Gauge the Standard.  
New List, Jan. 17, 1884.  
Dis 30x30x5 \$

#### COMMON HIGH BRASS.

Wider than 1/2 in. and including.....

1/2 in. to 2 in., inclusive.....

2 in. to 3 in., inclusive.....

3 in. to 4 in., inclusive.....

4 in. to 5 in., inclusive.....

5 in. to 6 in., inclusive.....

6 in. to 7 in., inclusive.....

7 in. to 8 in., inclusive.....

8 in. to 9 in., inclusive.....

9 in. to 10 in., inclusive.....

10 in. to 11 in., inclusive.....

11 in. to 12 in., inclusive.....

12 in. to 13 in., inclusive.....

13 in. to 14 in., inclusive.....

14 in. to 15 in., inclusive.....

15 in. to 16 in., inclusive.....

16 in. to 17 in., inclusive.....

17 in. to 18 in., inclusive.....

18 in. to 19 in., inclusive.....

19 in. to 20 in., inclusive.....

20 in. to 21 in., inclusive.....

21 in. to 22 in., inclusive.....

22 in. to 23 in., inclusive.....

23 in. to 24 in., inclusive.....

24 in. to 25 in., inclusive.....

25 in. to 26 in., inclusive.....

26 in. to 27 in., inclusive.....

27 in. to 28 in., inclusive.....

28 in. to 29 in., inclusive.....

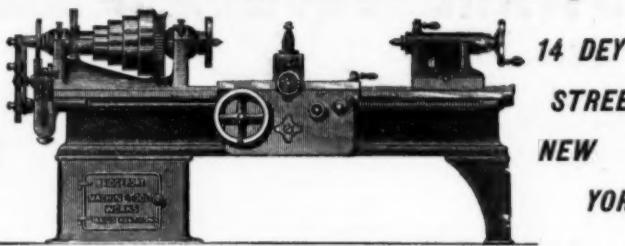
29 in. to 30 in., inclusive.....

30 in. to 31 in., inclusive.....

31 in. to 3

## E. P. BULLARD,

Proprietor  
Bridgeport  
Machine Tool  
WORKS.



## IRON WORKING MACHINERY.

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"Peerless" (Swivel Jaw) Pipe Grip.  
Every Part Interchangeable.  
CAN BE USED ON ANY VISE.  
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Double and Single Gate,  $\frac{1}{4}$  Inch to  
48 Inch, outside and inside  
Screws, Indicators, etc., for  
Gas, Water, Steam, Oil.  
Send for Circular.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.

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MANUFACTURERS OF THE ORIGINAL



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Pipe Cutting and  
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BEWARE OF IMITATIONS.  
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For Pipe Mill Use a Specialty.  
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Correspondence in United Economy, Con-  
siderably. Heat, Methods, Household  
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## Improved Machine Tools for Working Iron and Steel.

SHAFTING, PULLEYS, HANGERS, Etc., for Transmitting Power.  
IMPROVED SELF-ADJUSTING INJECTOR OF 1876, started, stopped and regulated as to capacity  
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Either a lifter or non-lifter; no extra valves or fittings required; tubes can be removed without disturbing  
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### SOLE MANUFACTURERS OF Tabor Steam Engine Governor

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WILL REGULATE AS CLOSELY AS THE BEST AUTOMATIC  
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Perfectly adapted to every type of Stationary and Portable Engine.  
Fitted with speed adjuster, Sawyer's Lever and  
Automatic Safety Stop.

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All Parts Interchangeable.  
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References: Croton Magnetic Iron Mines, Brewster's, N. Y.  
Crown Point Iron Co., Crown Point, N. Y.  
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Wheeling Hinge Co.—Wrought Goods.  
Woodruff, Miller & Co.—Ox Shoes.  
J. W. Williams & Son.—Thimble Skeins.  
Zimmerman Shutter Fasteners.

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Electric Lighting Systems  
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Strictly Fire Proof.

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A. SOULE, Manager.

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STRONGLY FIRST CLASS.  
MOST CONVENIENT TO  
Depots, Manufacturing and Business Portion  
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"THE MONONGAHELA" is the Favorite Hotel for  
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Steam Flue Cleaners may be had at the  
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& CO., 58 Light Street, Baltimore Md.



## BALTIMORE MANUFACTURERS' RECORD.

Door Mineral...	
Door For. Jap'd.	Same discounts as Door Locks.
Door For. Plated.	
Furniture Plain...	75c gross inch, dis 10%
Furniture, Wood Screws...	dis 10%
Picture...	dis 10&10%
Hemacite, Picture...	dis 10&10%
Shutter, Porcelain...	dis 50&10%
LADIES.	
Melting & Skim'mg, Monroe's Pat.	dis 40
Melting, C & C...	dis 20&10%
LAWN MOWERS.	
Acme Buckeye, Easy & Excelsior, new list.	dis 40&10%
INES.	
Linen Fish...	dis 25&10%
Wire Clothes, Galvanized, 100 feet...	dis 30
LOCKSMAN LATCHES.	
Cabinet, Eagle...	Changes made in list price
Cabinet, Gaylord...	of some numbers Jan. 1,
Cabinet, Bridgeport...	1881, dis 25&2%
Cabinet, P. & F. Corbin...	dis 40%
Trunk, new list, Jan. 1, 1881...	dis 15&2%
Yale Lock Co., Flat Key...	dis 40%
Plate...	dis 33&1/2%

## DOOR LOCKS, ETC.

Bradford	
Norwalk	
Norwich	
P. & F. Corbin	List prices as revised Dec. 18th, 45&2%
Russell & Erwin	for cash.
Mallory, Wheeler & Co.	
Nimick & Brittan Mfg. Co.	
Padlocks—Kussell & Erwin	
Mallory, Wheeler & Co.	dis 70%
Norwich Lock Manf. Co.	and 2% for cash.
Wm. Wilcox & Co.	
Nimick & Brittan Mfg. Co.	33 1/2%
Wm. Wilcox & Co's Plate Locks	dis 40%
Yale Lock Manf. Co's "Standard"	dis 40%
Romer's	dis 25&40%
Conestoga	dis 8&10%
Scandinavian, "Norwich"	dis 50&10%
Nimick & Brittan's Burglar-Proof Locks	dis 50&2%

## MALLETS.

Penfield Block Co., Apple, Hickory and Lignumvitae	dis 30\$
MEAT CUTTERS.	
Dixon's (P. S. & W.) Nos. 1 2 3 4.	dis 30\$
Perry's Nos. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 50.	dis 30\$
Perry's Nos. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 50.	dis 30\$
Woodruff's (P. S. & W.) Nos. 100 150.	dis 30\$
Woodruff's (P. S. & W.) Nos. 150 180.	dis 35%
Hales' Nos. 11 12 13.	dis 30\$
Hales' Nos. 27 35 45 dis 50&10&2%	dis 30\$
Kieser's No. 55.	dis 40\$
Kieser's Genu.	dis 25\$
Kieser's No. 82.	dis 40\$
Kieser's Monarch.	dis 45\$
Reef Shaver, (Enterprise Manf. Co.)	dis 25\$

## MOLASSES GATES.

Stebbins Pattern.	dis 70&10%
Stebbins Genuine.	dis 67&10&10%
Stebbins Tinned Ends.	dis 40&10%
Chase's Hard Metal.	dis 50&10%
Self-Measuring, (Enterprise).	dis 20&10%
Lincoln's Pattern.	dis 60&10%
Weed's.	dis 15%
Boss Nos. 1 2 3 4.	dis 10\$
Boss, Japanned Finish.	dis 60&10&10%
Boss, Bronze Finish.	dis 50&10&10%

## NUTS AND WASHERS.

Square Nuts.	8 c off list.
Hexagon Nuts.	8 1/2 c off list.
Washers.	7/8 c off list.
OILERS.	
Zinc and Tin.	dis 60&10%
Brass and Copper.	dis 50\$
Malleable (Hammer's).	dis 10\$

## PINKING IRONS.

Per dozen.	75 cts. net
PLAITING MACHINES.	
Astor Plaiting Machine.	each \$15, dis 20%
Crown Plaiting Machines.	dis 25%
6 in., 60; 10 in., 45 each.	

## PLANES AND PLANE IRONS.

Bench, First Quality.	dis 20%
Bench, Second Quality.	dis 25%
Molding.	dis 15%
Bailey's (Stanley R. & L. Co.) New list, Jan. 1879.	dis 20&10%
The Stanley (S. R. & L. Co.) new list, January 1879.	dis 20&10%
Bailey's.	dis 20&10%
Plane Irons, Butcher's.	dis 55 to 100
Plane Irons, Auburn Tool Co.	dis 20 to 100
Plane Iron, Ohio Tool Co.	dis 20 to 100
Plane Irons, Sandusky Tool Co.	dis 20 to 100

## PLIERS AND NIPPERS.

Button's Patent.	dis 33 1/2%
Hall's Pat. Compound Lever Cutting Nippers.	
No. 2, 5 in. \$13.50; No. 4, 7 in. \$21.00, dis 25%	
Gas Pliers.	dis 50\$

## PLUMBS AND LEVELS.

Diaslon's.	dis 40%
Stanley R. & L. Co.'s Pat. Adjustable.	dis 65&10&10%
Stanley R. & L. Co.'s Non-Adjustable.	dis 65&10&10%
Chapin's Patent Adjustable.	dis 65&10&10%
Chapin's Non-adjustable.	dis 65&10&10%
Standard Rule Co.'s New Adjustable.	dis 65&10%
Standard Rule Co.'s Non-Adjustable.	dis 65&10%
Pocket Levels.	dis 65&10%

## RAIL.

Sliding Door, Wrought Brass.	dis 43c.
Sliding Door, Bronzed Wrt. Iron.	dis 50c.
Sliding Door, Iron, Painted.	dis 45c.
Bar Door, inch.	dis 50c.
Per 100 feet. \$2.60 3.60 5.60 dis 10%	

B. D. for N. E. Hangers—	Small. Med. Large.
Per 100 feet.	\$2.10 2.70 .30 net.
RIVETS.	
Iron and Tinned, new list, Dec. 10, 1881.	dis 50c
In bulk, new list, Dec. 10, 1881.	
Copper Rivets and Hurs.	dis 60&10%
Nos. 7 8 9 10 11 12 13 14 15 16.	dis 40c.
1/2 lb. 40c. 50c. 52c. 54c. 56c. 58c. 60c. 62c. 70c.	
RIVET SETS.	dis 40%

## RODS.

Stair, Brass.	dis 25%
Stair, Black Walnut.	dis 60c.
RULES.	
Boxwood.	Ivory.
Chapin's.	{ dis 80% }
Standard.	{ dis 50&10%
Stanley.	
Stevens & Co.	dis 70&10%
Stevens & Co. Miscellaneous.	dis 50&10%
SAD IRONS.	
Self-Heating, Charcoal.	dis 9.00 net
Mrs. Pott's Irons.	dis 35%
Enterprise Star Irons, new list, July 20, '82.	dis 35%
Comb'd Fluter and Sad Iron.	dis \$15.00, dis 15%
Common Sad Irons.	dis 25c

## SAND PAPER.

Baeder & Adamson's Flint, 00@1/2.	\$4.50 per r.m.
Baeder & Adamson's Flint, 2, 2 1/2 & 3.	5.00 per r.m.
Baeder & Adamson's Flint, Assort'd 4.75 per r.m.	4.75
Baeder & Adamson's Star.	3.75 per r.m.
Baeder & Adamson's Emery per r.m.	\$6.50@11.50

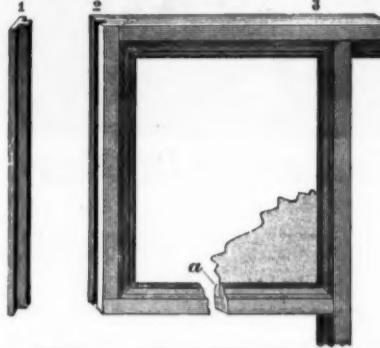
J. Bartle's Sand, Flint and Emery Paper.	dis 30c & 1/2

SASH LOCK.	
Clancy's No. 100, per gross.	dis 20c
Nimick & Brittan Mfg. Co.	dis 30c
SASH CORD.	
Common.	1 lb. 14c. net
Patent.	1 lb. 17c@18c. net
Silver Braided Lake Hemp.	1 lb. 50c, dis 10%
Silver Braid, Lake White Cotton.	1 lb. 50c, dis 10%
Silver Braided Lake Drab Cotton.	1 lb. 50c, dis 10%
Silver Lake Cable Laid, Bengal Unbleached Hemp.	17 cts.
Russian Hemp.	19 cts.
Italian Hemp.	14 cts.
Samson Braided, white cotton.	1 lb. 30c
"	drab cotton.

SASH WEIGHTS.	
Common.	1 lb. 14c. net
Patent.	1 lb. 17c@18c. net
Silver Braided Lake Hemp.	1 lb. 50c, dis 10%
Silver Braid, Lake White Cotton.	1 lb. 50c, dis 10%
Silver Braided Lake Drab Cotton.	1 lb. 50c, dis 10%
Silver Lake Cable Laid, Bengal Unbleached Hemp.	17 cts.
Russian Hemp.	19 cts.
Italian Hemp.	14 cts.
Samson Braided, white cotton.	1 lb. 30c
"	drab cotton.

SHEAVES.	
Sliding Door, M. W. & Co., List.	dis

**STUART'S PATENT  
WINDOW SCREEN FRAME  
CHEAPEST FRAME MADE.**



DOS NOT REQUIRE A SKILLED MECHANIC TO FIT.

These frames can be easily fitted to any ordinary window; are cheaper and in appearance far superior to those made by mechanics generally; is capable of adjustment from sizes given down to nothing, and insures close fitting and accurate joints.

**LIST PRICE.**

36x36 inches	.....	\$.35 per doz. sets.
42x42 "	.....	3.75 "
48x48 "	.....	4.75 "
54x54 "	.....	5.25 "

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**THE ONLY SUCCESSFUL  
Self-Setting TRAP.**

"The mouse goes in to get the bait  
And shuts the door with his own weight,  
And then he jumps right through a hole  
And thinks he's out; but, bless his soul,  
He's in cage, somehow or other,  
And sets the trap to catch another."

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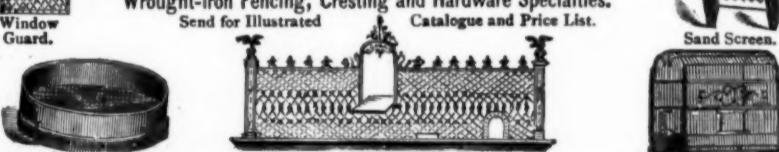


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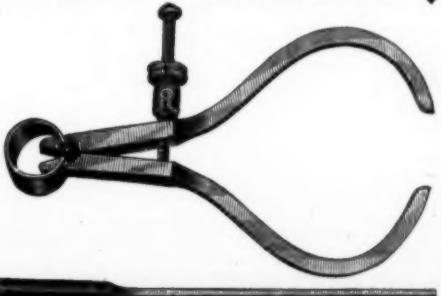
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**Always Gives Satisfaction.**

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Particular.**

No Other Freezer Ever Had Such a Sale.

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Manufacturers of COVERT'S Celebrated Harness Snaps, Swivel Snaps, Open Eye Bit and Chain Snaps, Snap and Thimble for Horse and Cattle Ties; ROPE GOODS, consisting of Web and Rope, Halters, Rope Horse and Cattle Ties, Web Horse Ties, Halter Leads, Driving Reins, Weight Cords, Hammock Ropes, Hitching Cords, Larist Tethers and Picker Pins.

Also, Leather Horse Ties, Etc. Breast Chains, Heel Chains, Chain Cow Ties, Halter Chains, Martingale Chains, Rein Chains, Post Chains, Butt Chains, Back or Cart Chains, Log Chains, Stake Chains, Trace Chains, Also, STUD, CABLE AND COIL CHAIN. CHAINS OF ALL KINDS MADE FROM SAMPLE OR DRAWING.

PATENT ADJUSTABLE SOLDERING IRONS.

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For the purpose of making the MANUFACTURERS' RECORD a still more valuable medium of communication between its readers North and South, we will publish, FREE OF CHARGE, short advertisements, not exceeding 10 words, from those in the South who have good business openings that they wish to bring to public notice, capital wanted for industrial enterprises, &c., &c.; while readers in other sections who desire to engage in manufactures at the South are also invited to use these columns, without cost, either in seeking information regarding the advantages and special claims of different localities, or for asking about good openings for men and money. This department is also free for Southern manufacturers who wish to advertise for mill managers, superintendents, engineers, &c.

In corresponding with any of these advertisers please mention the Baltimore Manufacturers' Record.

Parties advertising in this column must have replies sent to their own address, and not to care of Manufacturers' Record, unless stamps are sent for forwarding replies. Advertisements sent not in accordance with this requirement will not be inserted.

WANTED—To sell a silver mine in Watauga county, North Carolina, that is properly developed. Railroad and best facilities for mining convenient. For full particulars address J. W. Stuart, 8 East Park street, Knoxville, Tenn.

SITE and Water Power Free to a woollen, cotton or other manufactory in one of the largest towns in Texas. There is also a fine opening for a cotton compress. Address, J. Jukes, 603 Avenue B, San Antonio, Texas.

PARTNER WANTED with \$3,000 or more to start a stave and bucket factory, by party who is an experienced mill man, owns timbered lands, steam saw mill, iron lathe, planer and good set machinist's tools. Will guarantee the investment and 8% per annum. Address A. K. Fisher, Abbeville, Wilcox county, Ga.

I WISH to sell Seven Thousand Acres Finest Woodlands in the South. Woods comprise countless thousands of White, Post, Red and other oaks, Hickory, Pine, Ash, Cypress, Maple, Gum, Walnut, Sycamore, etc., etc. Want mill men and lumber merchants throughout the United States to communicate with me at once. E. B. C. Cash, Cash's Depot, S. C.

PARTNER WANTED.—One or more, with a capital of \$5,000 to \$20,000, to operate an agricultural manufacturing business, already in operation, or will sell the entire property; located at railroad depot; water-power second to none. Address D. K. Self, Telford, Washington Co., Tenn.

PLANING MILL FOR SALE.—A complete set of machinery, shafting, pulleys, &c., all in good order and ready to run; also all necessary buildings. Best location in the city. Will be sold at a bargain. Address E. H. Jenkins, Columbus, Ga.

WANTED—To learn of a good opening for the establishment of a large saw mill in Eastern Tennessee or Western North Carolina, where there will be abundance of timber for several year's work, and near transportation. H. F. Burt, Elizabethton, Tenn.

AN OPENING in a new but profitable manufacturing business for a live man with \$1,000 to \$5,000. Business now in operation, but lack capital to work full capacity. For full particulars, address J. T. Rogers, Henderson, N. C.

SITUATION WANTED as manager, superintendent, or in most any capacity, by married man; 18 years' experience in machinery business as manager, correspondent, &c. Refer to S. C. Forsyth Machine Co., Manchester, New Hampshire. Address Geo. H. Ball, 368 West 32d street, New York City.

WANTED—A party with \$50,000 to join the advertiser in a strictly cash manufacturing business. Sales are made daily, and will aggregate during the season, which lasts six months, \$1,000,000. Location, Paris, Texas. Address, C. H. Merry, care F. & M. Bank.

PARTNER WANTED with capital to further develop valuable mineral springs and resort property in the South; or will sell out. The water is gaining a wide reputation for its general curative properties, and the place is rapidly growing in popularity as a summer resort. Address H. P., care MANUFACTURERS' RECORD.

WANTED—Capital to take interest in 40,000 acres Choice Timber and Mica Lands. Big money to careful party. Address, C. F. Griffing, Spruce Pine, N. C.

PARTNER WANTED.—With about three thousand dollars, to carry to completion a splendid business enterprise already well underway. Will pay handsomely, and field practically unlimited. Party need not change residence. Full particulars upon application with references to T. F. C., Box 52, Selma, Ala.

FOR SALE.—Orange property, three miles from the city of Tampa, Florida, on thickly settled avenue. A bargain. Title perfect. Terms easy. Address Geo. A. Smith, Tryon City, N. C.

WILL manufacturers of machinery for silver plating, also of electro batteries, send catalogues and prices to J. R. Powell, 123 South Spruce street, Nashville, Tenn.

THE Talladega Oil Mill & Public Ginnery is offered for sale, or would form a stock company for manufacture of fertilizers and soap. Correspondence solicited. W. E. Yancey, Talladega, Ala.

VALUABLE COAL PROPERTY FOR LEASE in Montgomery county, Va., two miles from railroad. Address Chas. C. Kasey, New River Depot, Va.

A GOOD OPPORTUNITY for a Brass Moulder and Finisher with small capital to join a party who owns a good location, with buildings, engine, machinery and tools, now successfully running a novelty and plating works, and will furnish equal capital with the right party. Address Southern Electro-Plating and Novelty Works, Chattanooga, Tenn.

WANTED—A reliable man with \$1,500 cash, to engage in a lucrative business, in a great business center in the South. Address Energy, care of MANUFACTURERS' RECORD, Baltimore.

FOR SALE—1 Ring Twister, 8 Patent Twisters with spools, shafting, pulleys and belting, for making patent seine twine from 9 to 36 thread. Part of the machinery run less than two months. Will be sold for half its value. Address, Gillette Twine Co., Mount Verd, Tenn.

WANTED—To sell a newspaper outfit very cheap. Also want to know of some locality desiring a weekly newspaper. Address, E. S. J., P. O. Box 91, Pulaski, Tenn.

PARTNER WANTED with \$5,000 capital to help mine and ship coal. I have an 8 foot vein now opened, with a tram road just finished, 100 rods long, 1/2 miles from the B. & O. R. R., at Webster, W. Va. This is the nearest mine to Webster, with which place it is connected by a level road. Coal is worth here 6 cents a bushel. About 20,000 bushels have recently been shipped from the mine. J. H. Smith, Webster, W. Va.

A FIRM of Engineers and General Machinists, now doing business in a Northern city, would like to learn of some good, healthy locality in the South where there is an opening for a machine shop and foundry. Their machine shop tools are all first-class and new, and both members of the firm are practical mechanics. One of them is a good draughtsman and is capable of making drawings and building any style of engines or machinery. Address Machine Shop, care MANUFACTURERS' RECORD.

FOR SALE—I offer for sale an interest in a well-established Foundry and Machine Business. A good location; a growing business; valuable patents and patterns. Control of the Southern States on a valuable specialty. For particulars address W. J. care MANUFACTURERS' RECORD.

WANTED—A partner with \$5,000 or \$6,000 to engage in a very profitable manufacturing business. Special inducements will be given to right party. Large demand and good profit. For particulars address H. L. Freeman, Concord, N. C.

A GENTLEMAN of good practical, as well as technical education, wishes position as assistant superintendent or foreman in machine works, where he can, in time, take an interest. David Rice, care MANUFACTURERS' RECORD, Baltimore, Md.

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In Every Town

IN THE

SOUTH

To Solicit Subscriptions

FOR THE

Manufacturers'

Record.

References Required.

Managers of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

## Get the Best at First.

The Holyoke Machine Company, of Worcester, Massachusetts, advertise in this issue their well-known Hercules Water Wheel. This wheel has many points of merit that strongly commend it to the attention of those who use water power. The most thorough tests have demonstrated its many good qualities. In Holyoke it is the standard water wheel, the aggregate horse power of the Hercules wheels in operation there being greater than that of all other wheels combined. These wheels are very popular in the South as well as in the North, having been in use for many years in a large number of Southern mills. There are four of the Hercules wheels now in operation in the big cotton mills of the Eagle & Phenix Manufacturing Co., Columbus, Ga., and Mr. John Hill, of that company, in writing, Feb. 25, 1885, to the Holyoke Machine Co., said: "Within the past four years I have ordered four Hercules' wheels, all of which have given the purchasers entire satisfaction. Three of the wheels are on regular duty in the Eagle & Phenix Mills. The first wheel ordered did so well that a 'Hercules' wheel has been added each time a new wheel was wanted. In the Eagle & Phenix Mills I supervise twenty water wheels of six different styles. The 'Hercules' is by far the most durable and best made wheel in use here, and, in fact, I know of no wheel its equal mechanically. It is all that can be desired in economy of water. In fact, it is a strictly first-class wheel in every way, and the wheel to buy, use and depend upon."

That is a pretty strong letter, but it is only a sample of letters received by the manufacturers of this wheel. Among the recent shipment of wheels have been two—one a 54-inch and one of 60-inch—to a Georgia cotton mill. Two Hercules wheels are being put in at Natick Cotton Mill, and one at the Arctic Mill of B. B. & R. Knight near Providence. This will make eleven wheels furnished to this well-known firm, one of the most prominent in the manufacturing line in New England. Hercules wheels are sold in England, Ireland and Scotland, and on the Continent, a cable order having been received only a few days ago for one to go to France. The manufacturers say: "The Hercules gives the most power for its size and the highest average percentage from full to one-half gate of any wheel ever made." Their advice to all users of water wheels is to "get the best at first." If you are interested in water wheels, if you want a new wheel or a larger wheel, or better wheel than you are using, write to the Holyoke Machine Co., Worcester, Mass., for catalogue No. 3.

Established 1867.

E. HARRINGTON, SON & CO.

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Iron Planers, Boring Mills, Drills,

And a variety of other MACHINISTS' TOOLS.

Patent Double Chain Screw Pulley Blocks, unrivaled for durability, safety and power.

Patent Double Chain Quick Lift Hoists, with Brake for quick and easy lowering.

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The undersigned make a specialty of developing and selling United States Patents. They are now offering to manufacturers several new and valuable inventions at very reasonable figures, among which is a patent (just issued) for an automatic Steam Boiler Injector, and a Sight Feed Lubricator, both of which have been sufficiently developed to establish their merits. For particulars address,

THE NOTEMAN MFG. CO., TOLEDO, O.

Correspondence with inventors solicited.

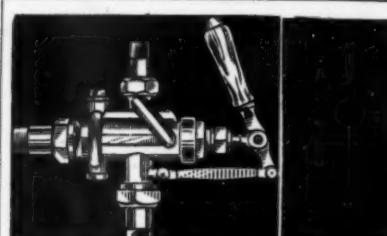
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Until you have seen our circulars. Engines complete from

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—Lubricators Wrenches, Etc.—

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lars address CROSBY, BURTON & CO.

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OVER 6,000 IN USE.

Bates' Hand Elevators.

Adapted for Warehouses, Stores, Factories, Hotels, Public Institutions, and every place where merchandise, &c., is transferred from one story to another.

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Nos. 1 3 & 5 President Street, BALTIMORE.

STANDARD WATCHMANS CLOCK  
20 PRIZE MEDALS AWARDED  
FOR 12 STATIONS COMPLETE PRICE \$50  
THE BEST IN THE MARKET  
IF NOT SATISFACTORY RETURN GOODS AT EXTR. COST  
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Is a work of nearly 200 pages, colored plates, 1000 illustrations, with descriptions of the best Flowers and Vegetables, prices of Plants and SEEDS and how to obtain them. Price only 10 cents, which may be deducted from the first order.  
ONLY VICK'S SEEDS, AT HEADQUARTERS.  
JAMES VICK, SEEDSMAN, Rochester, N.Y.

THE Manufacturers' Record should be in the hands of every manufacturer and business man who desires to keep informed as to Southern industrial affairs, or who has any interest or concern in the progress of the South. The wonderful development of the South is attracting attention all over the world, and the progress of this development is faithfully chronicled from week to week by the Manufacturers' Record. It is conceded to be the foremost exponent of the industrial interests of the Southern States. Price \$3.00 a year.

# Stilwell's Patent Lime Extracting HEATER AND FILTER Combined.

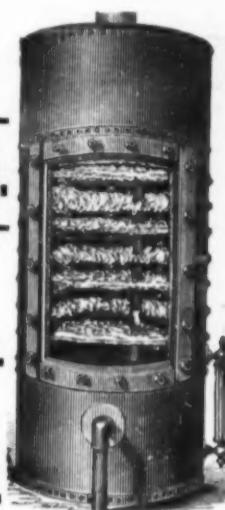
The Only Lime Extracting Heater That Will Prevent Scale in Steam Boilers.

Removing all impurities from the water before it enters the boiler.

Thoroughly Tested.

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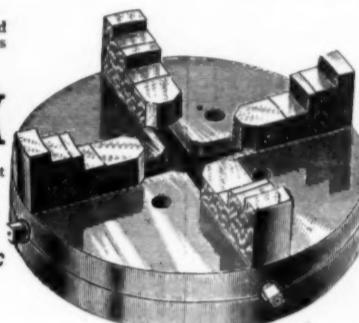
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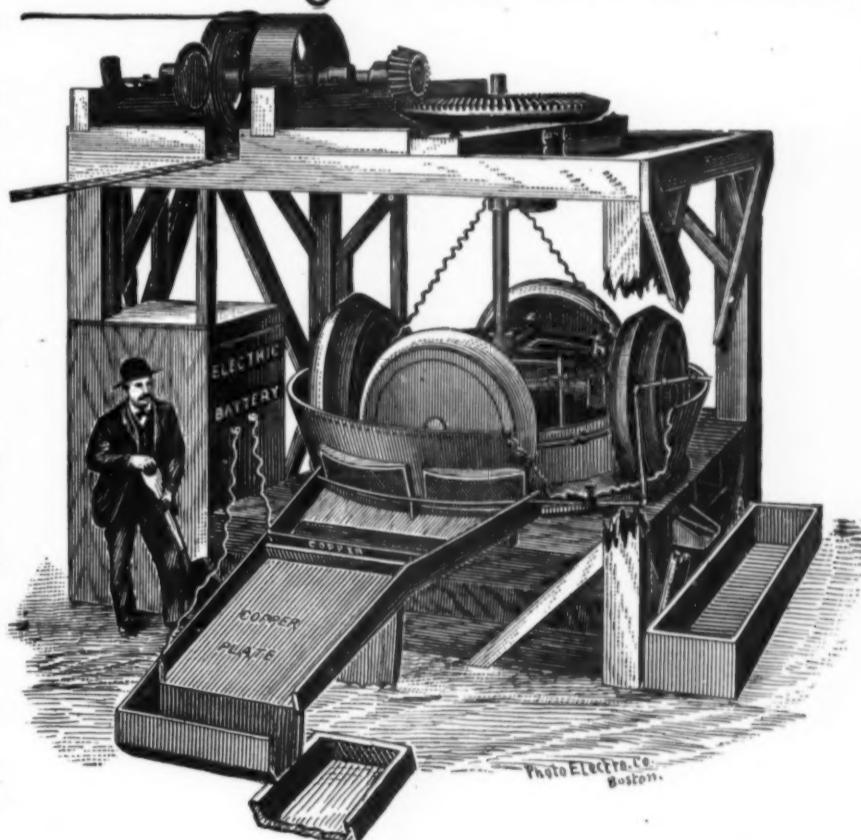
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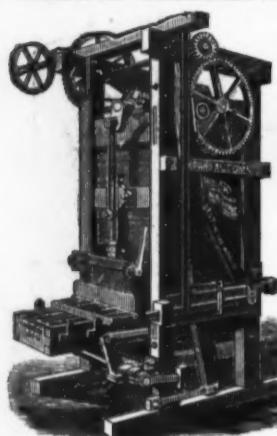
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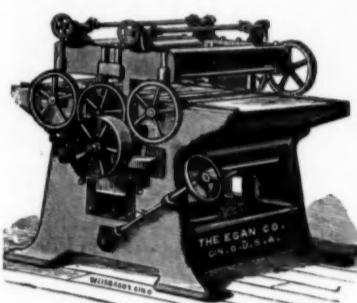
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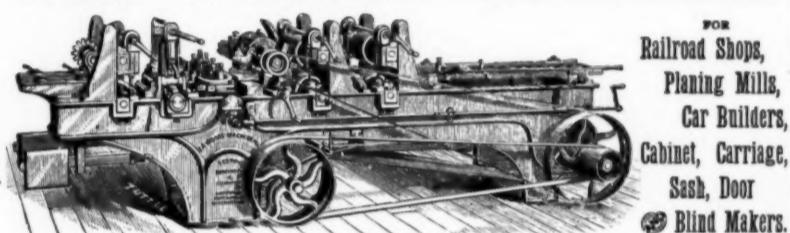
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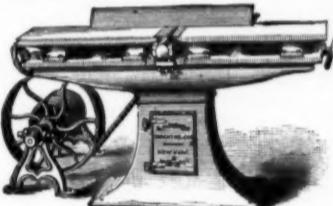
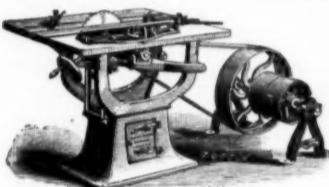
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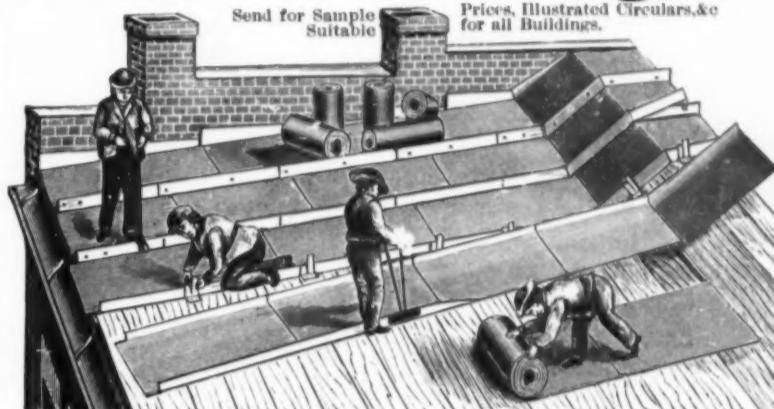
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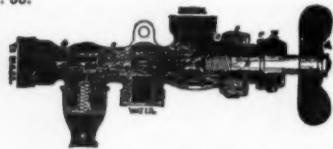
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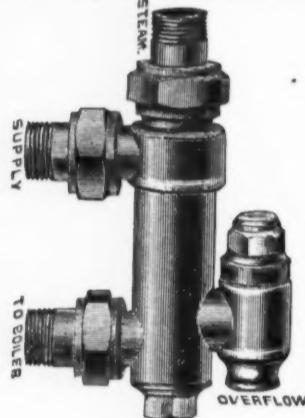


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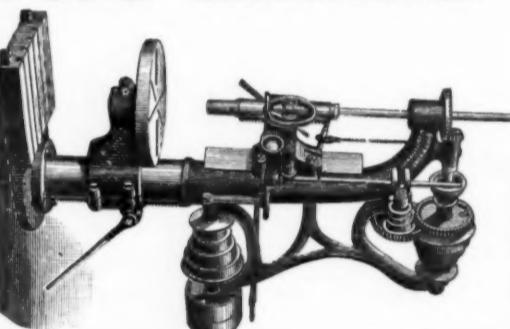
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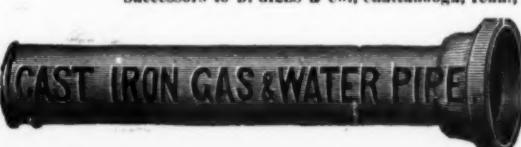
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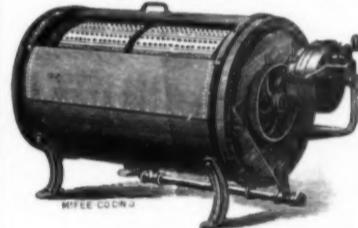
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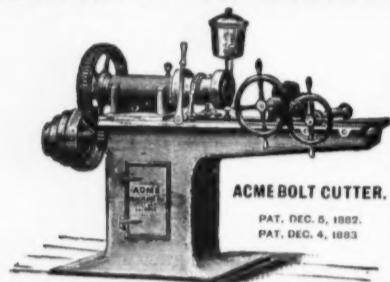
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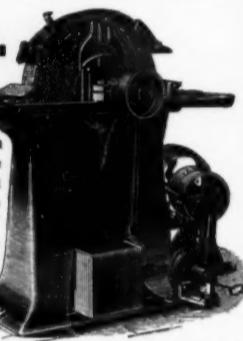
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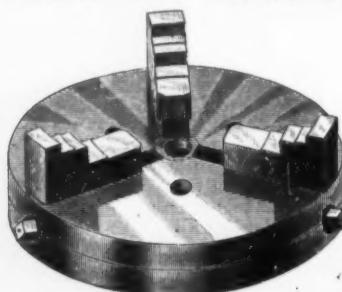
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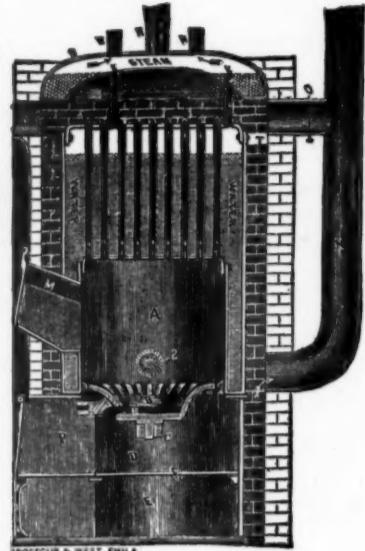
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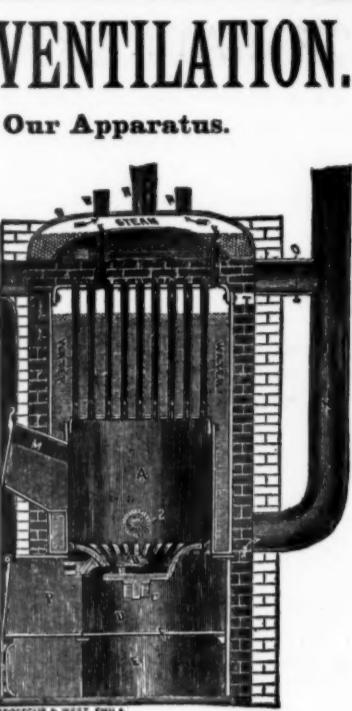
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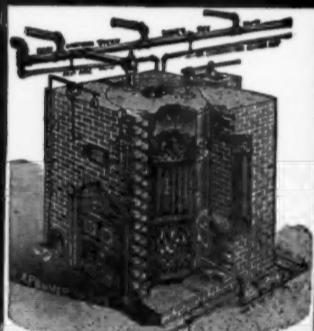
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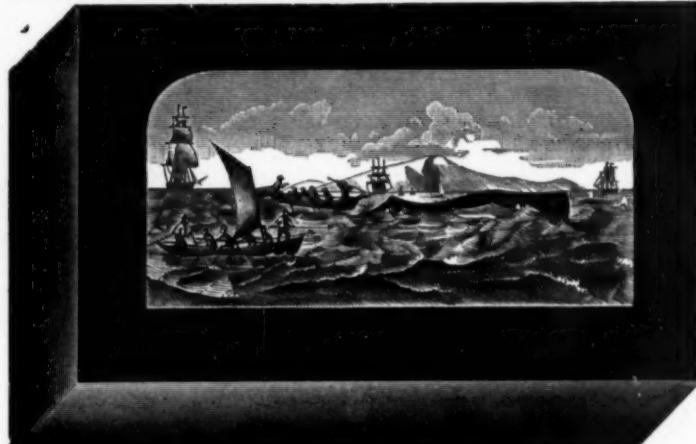
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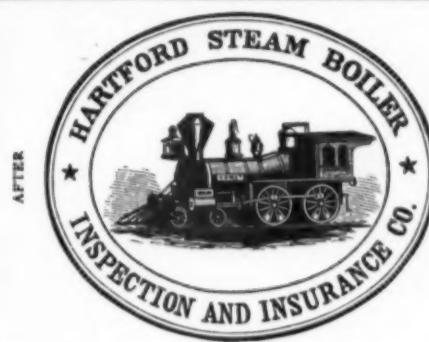
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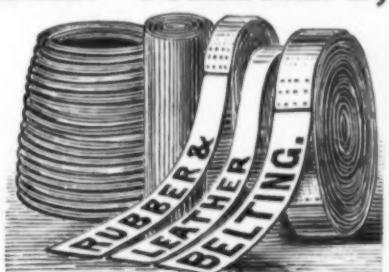
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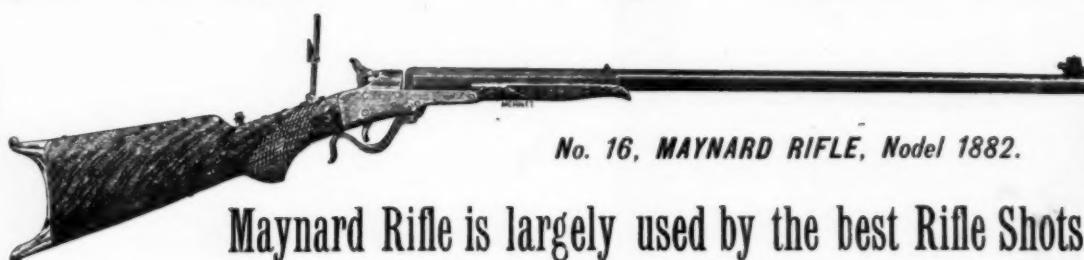


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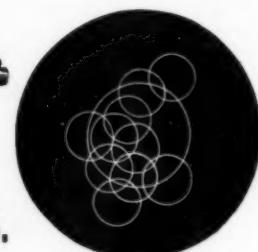
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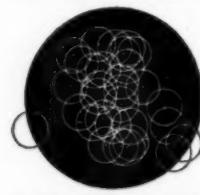
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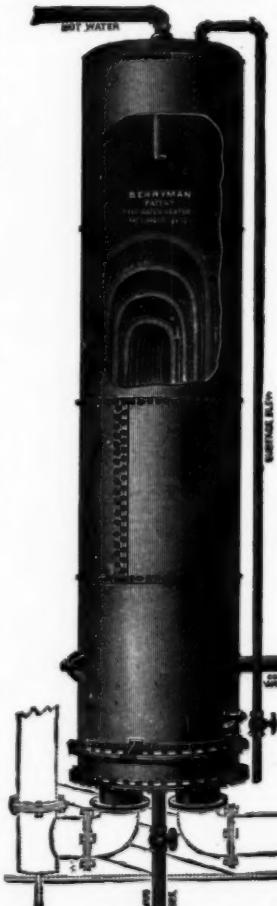
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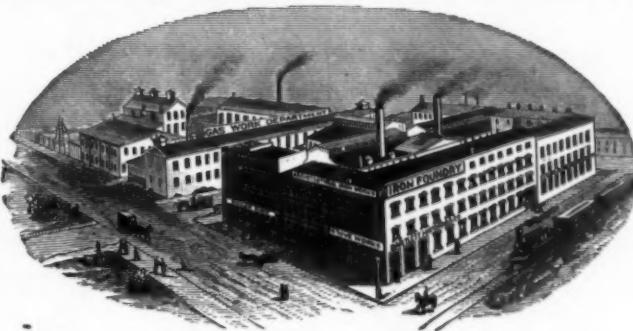
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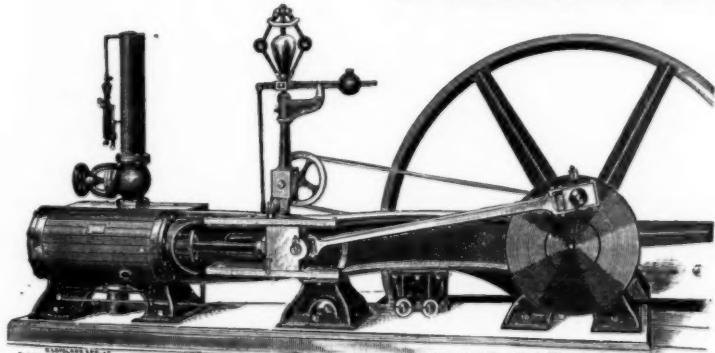
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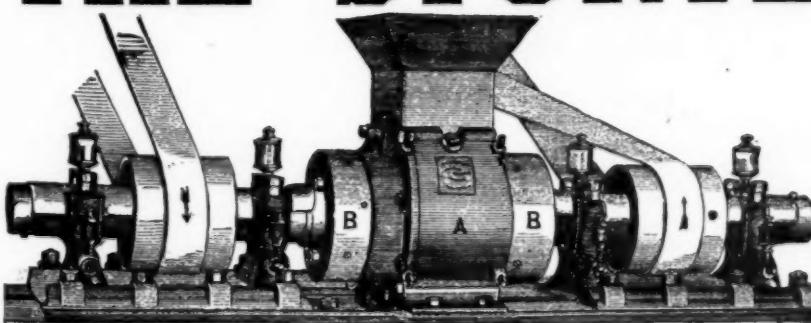
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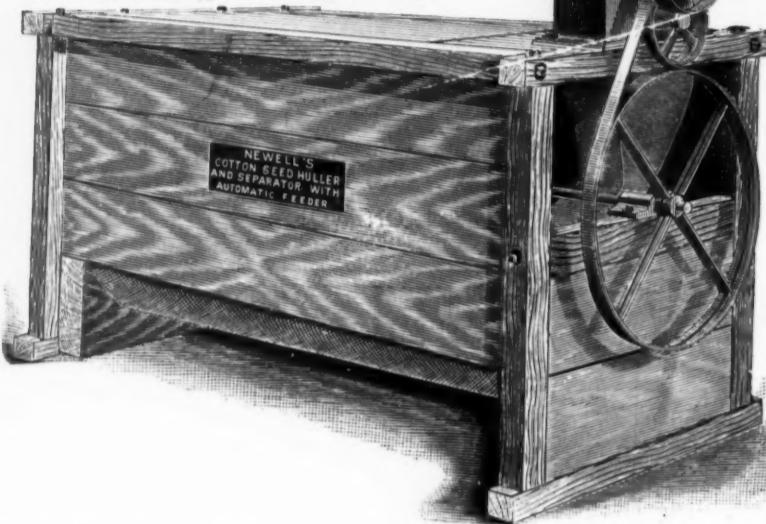
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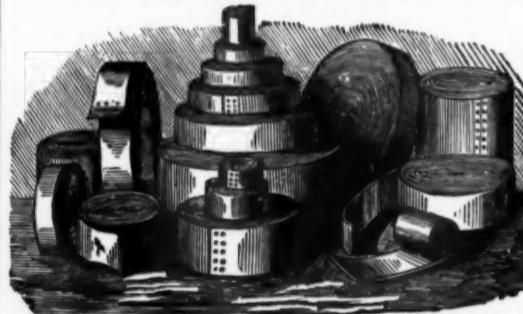
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